SUGARBUSH RESIDENTIAL DEVELOPMENT PROJECT

APPENDIX D

BIOLOGICAL TECHNICAL REPORT

GPA 05-010/TM 5295RPL7/R04-008/SP 03-003/
S04-015/LOG NO. 02-08-047
SCH No. 2005121098

for the

DRAFT ENVIRONMENTAL IMPACT REPORT

OCTOBER 2009

SUGARBUSH RESIDENTIAL DEVELOPMENT PROJECT

BIOLOGICAL TECHNICAL REPORT
GPA 05-010/TM 5295RPL^{7}/R04-008/SP 03-003/ S04-015/Log No. 02-08-047

October 7, 2009

Prepared for The County of San Diego

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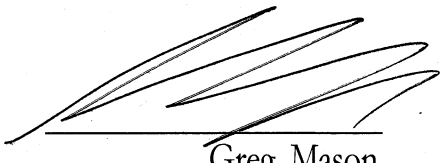

Greg Mason
Vice President and
County-approved Biological Consultant

Sugarbush Residential Development Project
Biological Technical Report

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SUMMARY OF FINDINGS

This biological technical report was prepared to evaluate the proposed Sugarbush residential project, which would subdivide 115.5 acres into 45 single-family residential lots. The project site is located in the unincorporated lands of San Diego County between the Buena Vista and Twin Oaks communities. Secondary emergency access to the proposed project would be from existing Cleveland Trail, which would be improved off site to Buena Creek Road. Brush clearance, slope modification, and construction of a retaining wall would occur on the south side of Buena Creek Road, both east and west of its intersection with Sugarbush Drive, to meet existing requirements to establish adequate lines-of-sight for motorists.

EXISTING CONDITIONS

The project site supports 10 vegetation communities: coast live oak woodland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, coyote brush scrub, non-native grassland, eucalyptus woodland, non-native vegetation, disturbed habitat, orchard, and developed land. Additional vegetation communities found off site along Cleveland Trail, Buena Creek Road, and/or within the 100-foot mapping buffer include southern coast live oak riparian forest, freshwater marsh, southern mixed chaparral, and intensive agriculture.

No federally or state listed threatened or endangered plant species were observed on site; however, one federally listed threatened animal species was observed during biological and zoological surveys: the coastal California gnatcatcher (*Polioptila californica californica*). In addition, four species recognized as sensitive by the County of San Diego (County) were observed: ashy spike-moss (*Selaginella cinerascens*), red-shouldered hawk (*Buteo lineatus*), turkey vulture (*Cathartes aura*), and white-tailed kite (*Elanus leucurus*).

The project site is in the northeast of a large block of undeveloped land that extends from Buena Creek to San Marcos and may act as a core area for local wildlife. The project site is shown as being of very high quality habitat in the northwest and south, high to moderate quality in the center of the project site, and agriculture in the eastern portion of the site on the County's Habitat Evaluation Model (HEM). While not part of a regional corridor, the smaller on-site drainages may serve as local corridors for wildlife.

IMPACTS

The proposed project would result in impacts to 0.6 acre of coast live oak woodland (0.2 acre of habitat and 0.4 acre of oak root zone), 23.3 acres of Diegan coastal sage scrub (including 1.7 acre of disturbed), 11.1 acres of non-native grassland (including 10.5 acres due to the residential development, and 0.6 acre due to oak woodland creation), 0.1 acre of eucalyptus woodland, 1.8 acres of non-native vegetation, 3.0 acres of disturbed habitat (including 2.7 acre due to the residential development and 0.3 acre due to oak woodland creation), and 0.8 acre of developed land. Impacts to jurisdictional areas would include and 170 linear feet (320 square feet) of drainage that is jurisdictional to the U.S. Army Corps of Engineers (Corps) and California Department of Fish and Game (CDFG), but is not considered a County Resource Protection

Ordinance (RPO) wetland. If present during construction, the proposed project could significantly affect coastal California gnatcatcher(s) and nesting raptors.

MITIGATION

Impacts to 0.6 acre of coast live oak woodland (0.2 acre of habitat and 0.4 acre of root zone) will be mitigated through 0.4 acre of preservation and 0.9 acre of creation of this habitat within the on-site biological open space, which would result in a net increase in total on-site coast live oak woodland. Impacts to 23.3 acres of Diegan coastal sage scrub will be mitigated at a 2:1 ratio through on-site preservation of 46.6 acres of Diegan coastal sage scrub. A total of 67.6 acres of Diegan coastal sage scrub, 2.8 acres of coastal sage-chaparral scrub, and 0.3 acre of coyote brush scrub would be available for use as mitigation within the biological open space, which far exceeds the mitigation requirement for Diegan coastal sage scrub. Impacts to 11.1 acres of non-native grassland (10.5 acres due to the residential development and 0.6 acre due to oak woodland creation) would require mitigation at a 0.5:1 ratio. This impact would be partially mitigated by the on-site preservation of 2.4 acres of non-native grassland within the biological open space. Because preservation of sage scrub habitats is 24.1 acres over the amount required, the additional 3.2 acres of non-native grassland mitigation would be achieved through this excess preservation of coastal sage scrub. A total of 77.1 acres will be placed in open space, of which 0.7 acre would be steep slope easement subject to brush management (and considered impacted) and 0.7 acre would be avoidance open space in the western panhandle. The habitat in the biological open space will be managed *in perpetuity* by an approved management entity pursuant to a Habitat Management Plan to be approved prior to approval of grading plans, improvement plans, or the final map.

Impacts to 170 linear feet (320 square feet) of drainage would be mitigated through on-site enhancement (weed removal) along the length of the main drainage north of the primary access road.

Impacts to the coastal California gnatcatcher will be mitigated through the above-noted habitat preservation as well as through the restriction of certain construction activities during the breeding season and/or away from active gnatcatcher nests. Additionally, no construction would occur within proximity to an active gnatcatcher nest such that noise levels exceed 60 dB(A) L_{eq}. Potential impacts to nesting raptors will be mitigated through the avoidance of construction within 500 feet of active raptor nests.

1.0 INTRODUCTION

This biological technical report was conducted to provide the County of San Diego (County; California Environmental Quality Act [CEQA] lead agency), resource agencies, and the public with current biological data to satisfy the review of the project under the CEQA and other federal, state, and local regulations. The report discusses vegetation communities and wildlife observed or detected within the proposed project site and sensitive resources that could be potentially affected by the proposed project. In addition, this report includes a discussion of the regional setting, a qualitative and quantitative analysis of impacts to sensitive species, and an assessment of direct and indirect project impacts. Mitigation measures for adverse project-related impacts are proposed to offset the project's potentially significant impacts to sensitive plants, animals, habitats, and rare natural communities.

1.1 PROJECT DESCRIPTION

The proposed project site is 115.5 acres and is currently vacant. The proposed project is the subdivision and construction of 45 single-family residential units, internal roads, and associated infrastructure as proposed in Specific Plan 03-003 and Tentative Map 5295 RPL7. The project would focus development on the southwestern corner of the property and would include open space Lots A (51.80 acres) and B (24.04 acres), as well as open space associated with residential Lots 11 and 33. The areas subject to open space easements total 77.1 acres, including 75.7 acres of biological open space, 0.7 acre of avoidance open space in the panhandle lot, and 0.7 acre of steep slope open space, which would be subject to brush management. The proposed access road to the site would be from the north at Sugarbush Drive and would be intersected by two high-density polyethylene culverts. An existing access easement extending north to south in the central portion of the site and a 0.2-acre sewer easement beneath Cleveland Trail in the western portion of the site would be maintained. Within Lot 11, an existing 60-foot road and utility easement for Assessor's Parcel Number (APN) 184-280-03 would be replaced with a proposed 52-foot easement. The project also includes a 50-foot fire clearing zone along the shared boundary with APNs 181-280-10 and 11, located just west of Sugarbush Drive to the north of the site.

Secondary emergency access would be provided to the site from the west along an existing road right-of-way along Cleveland Trail to Buena Creek Road. Improvements to Cleveland Trail would occur within the existing 30-foot wide right-of-way and primarily on top of existing paved or disturbed areas. The road generally would be repaved from its current variable width to 24 feet in width. For a distance of 50 feet in the vicinity of Buena Creek, the crossing would remain in its current condition, with a concrete dip section over a 36-inch culvert. The existing residential properties taking access off of Cleveland Trail are currently, and will remain, responsible for brush clearance in compliance with County and Fire Marshal standards. The Project HOA would accept responsibility for clearing existing canopy over the road to 13.5 feet above road surface, as well as ensuring a 10-foot canopy separation. The Project also would clear brush, hand trim woody elements, and brush grasses for 16 feet from the road on either side of the existing right-of-way. Because these efforts are currently mandated under existing fire requirements, no impact is associated with the Proposed Project.

Brush clearance would occur on the south side of Buena Creek Road, both east and west of its intersection with Sugarbush Drive. This clearance would result from the need to establish adequate lines of sight associated with current speeds of cross traffic along Buena Creek Road. All work would occur within existing road right-of-way and/or slope embankment easements currently held by the County, except on a portion of Lot 21 of Hollyberry Estates to the east of this intersection. This would include initial clearance, slope modification, hydroseeding with a native (sage scrub) habitat erosion control hydroseed, and construction of a retaining wall. Post implementation, the County would assume all responsibilities associated with continued trimming and maintenance.

To the west of Sugarbush Drive, a 553-foot line of sight from the Sugarbush/Buena Creek Road intersection would require approximately 350 feet of 2:1 cut slope ranging in height from zero to four feet in height. East of Sugarbush Drive, slope modification would occur for approximately 165 feet in length with a maximum height of eight feet, and a retaining wall of earth-toned slump stone would be installed, ranging from zero to five feet in height. Each of these features would roughly parallel Buena Creek Road.

Two stormwater detention/biofiltration basins would be located at the northwestern end of the development footprint and an additional basin would be located immediately south of Lone Oak Lane. Bioretention basins would filter stormwater/site runoff anticipated to reach the Buena Creek drainage. The basins, located at the western property boundary, would have high pollutant removal capacity for coarse sediment, trash, nutrients, heavy metals, and pesticides.

A six foot-high masonry fire wall would extend along the northern boundary of Lots 1 and 6, the southern edges of Lots 8 through 11, and the eastern boundaries of Lots 11 and 33 through 45. Concrete split rail fencing would be provided along both north and south sides of Sugarbush Drive between Project's northern boundary and Sugarbush Drive terminus at the development bubble.

Approximately six low-pressure sodium lights would be required on site, directing light to use areas along Project streets. Lighting would comply with Division 9 of the County Light Pollution Code (LPC) standards, requiring this lighting to be less than 4,050 lumens and fully shielded, minimizing nuisance lighting, particularly adjacent to residential uses and preserved natural open space. Open space signs identifying restricted access would be installed along the open space boundaries within the site.

Sewer service would be provided by Buena Sanitation District. The Project would extend an eight-inch sewer line connecting to the line in Buena Creek Road approximately 1,000 feet to the Project site within Cleveland Trail (prior to re-paving). Water service would be provided by Vista Irrigation District. The Project would also extend water lines through the Project.

All Project property not located within the development bubble or required for access or utility easements would be placed into permanent open space (biological open space, avoidance open space, or steep slope easement), which would be managed by a local conservancy approved by

the County and resource agency staff. The steep slope open space would be subject to brush management.

1.2 LOCATION AND LAND USES

The proposed project site is located within the County's North County Metro Community Planning Area in the unincorporated portion of San Diego County. It is situated between the Buena Vista and Twin Oaks communities (Figure 1) northeast of San Marcos at the southern terminus of Sugarbush Drive at Buena Creek Road (Figure 2).

The site supports predominantly native vegetation but contains several dirt roads and trails. Avocados have been grown historically on the northeast portion of the site, while olive production may have occurred on the southern portion of the site. The roads and trails within the proposed project site are used by equestrians and bicyclists. Surrounding land uses include undeveloped land to the south and southeast and low-density residential to the north, west, and east.

1.3 PHYSIOGRAPHY

Elevations on site range from approximately 570 feet above mean sea level (amsl) to approximately 1,050 feet amsl. Soils consist primarily of Escondido very fine sandy loam (9 to 15 percent slopes, eroded), Escondido very fine sandy loam (15 to 30 percent slopes, eroded), Friant rocky fine sandy loam (9 to 30 percent slopes), Friant fine sandy loam (30 to 50 percent slopes), and Huerhuero loam (2 to 9 percent slopes; Bowman 1973).

While the western portion of the site is relatively flat and gently rises to the south, much of the north and east consist of steep slopes or ridges that run along the north of the site or extend south of the site. A disjointed drainage feature runs in the valley in the north of the site. Tributary drainage features carve into the hillsides above the main drainage and the flatter western portion of the site.

2.0 SURVEYS AND METHODS

HELIX Environmental Planning, Inc. (HELIX) and its subconsultants conducted surveys of the Sugarbush residential subdivision project site and proposed off-site improvement areas March 12, 2002 through July 24, 2003, February 18 through March 27, 2009, and August 13, 2009.

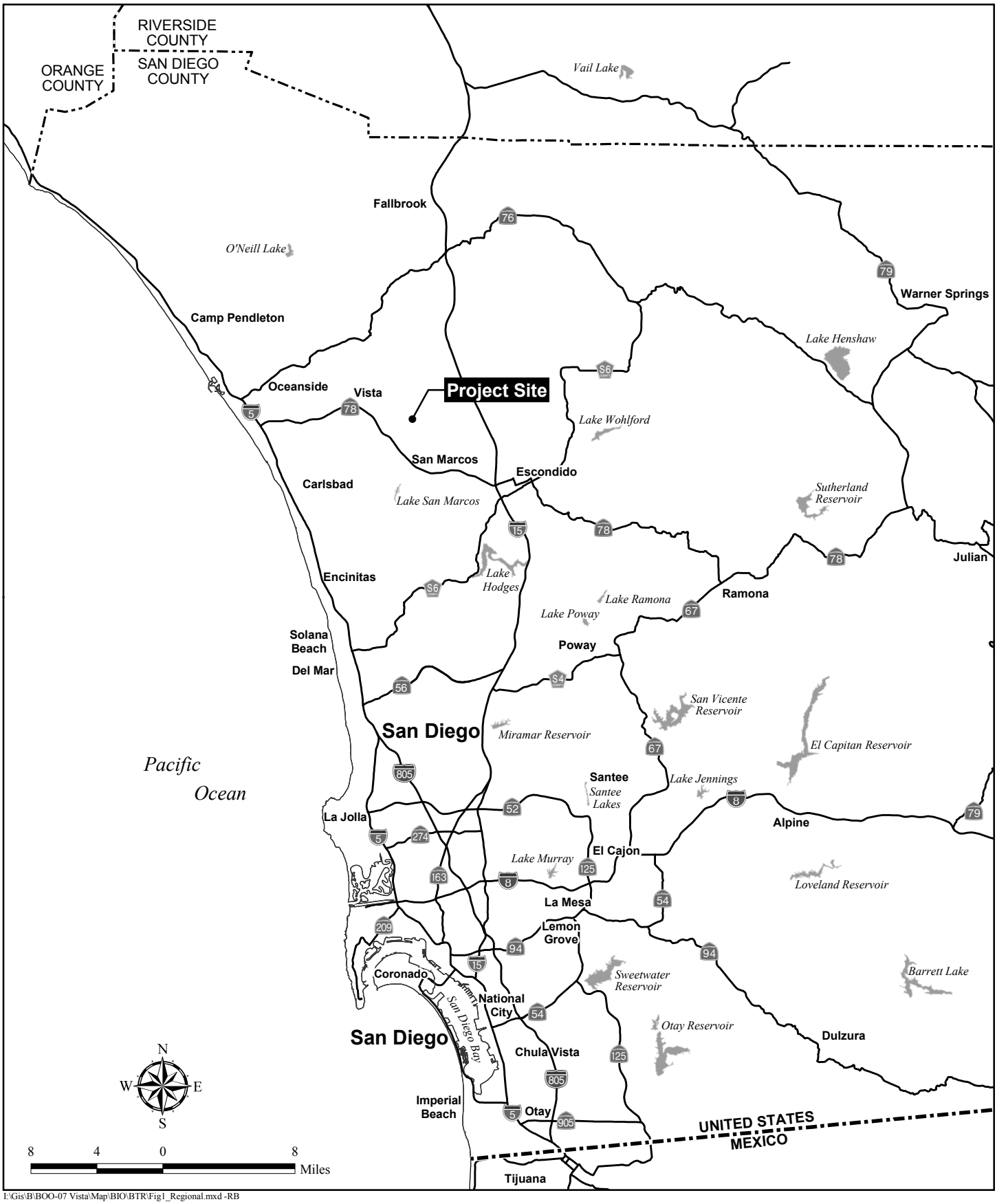
2.1 GENERAL BIOLOGICAL SURVEY

HELIX biologists W. Larry Sward and Scott Taylor performed vegetation mapping, general botanical and zoological surveys, and a wetland delineation on March 13, 2002. The site's vegetation was mapped in the field on a 1" to 300' scale topographic map with the aid of an aerial photograph taken in 2001. Vegetation mapping was revised for the site by Mr. Sward and Brian Parker on February 18, 2009; updated for Cleveland Trail by Greg Mason and Mr. Parker on

June 4, 2009; and conducted for the Buena Creek Road/Sugarbush Drive intersection by Mr. Parker on August 13, 2009. A rare plant survey was also conducted by Mr. Sward on March 13, 2002. A second rare plant survey was conducted by Mr. Sward and Sally Trnka on May 13, 2003. Coastal California gnatcatcher (*Polioptila californica californica*) surveys were performed by Scott Taylor in 2002, Robin Church in 2003, and Jason Kurnow and Deborah Leonard in 2009. Information for the above surveys is provided in Table 1.

Table 1
SURVEY INFORMATION

SURVEY DATE	PERSONNEL	TIMES AND WEATHER CONDITIONS	PURPOSE
March 12, 2002	Scott Taylor	0700-1200; Clear, 69-73°F wind 0-5 mph	Coastal California gnatcatcher survey #1, section 1
March 13, 2002	Scott Taylor	1000-1200; Mostly clear, 64-66°F, wind 0-2 mph	Coastal California gnatcatcher survey #1, section 2
March 13, 2002	Scott Taylor W. Larry Sward	N/A	Vegetation mapping and general plant and animal surveys; wetland delineation; rare plant survey
March 19, 2002	Scott Taylor	0715-1200; Clear, 65-74°F, wind 0-2 mph	Coastal California gnatcatcher survey #2, section 1
March 21, 2002	Scott Taylor	1018-1200; Clear, 72-74°F, wind 0-2 mph	Coastal California gnatcatcher survey #2, section 2
March 28, 2002	Scott Taylor	0730-1200; Overcast, 56-58°F, wind 0-2 mph	Coastal California gnatcatcher survey #3, section 1
March 30, 2002	Scott Taylor	1000-1200; Partly cloudy, 67-68°F, wind 2-4 mph	Coastal California gnatcatcher survey #3, section 2
May 13, 2003	W. Larry Sward Sally Trnka	N/A	Rare plant survey
June 28, 2003	Robin Church	0700-1000; Light fog to clear, 68°F, wind 0-5 mph	Coastal California gnatcatcher survey #1, section 1
June 30, 2003	Robin Church	0800-1000; Light fog to clear, 66-70°F, wind 0-5 mph	Coastal California gnatcatcher survey #1, section 2
July 12, 2003	Robin Church	0630-1000; Clear, 58-76°F, wind 0-5 mph	Coastal California gnatcatcher survey #2, section 1
July 17, 2003	Robin Church	0720-1000; Overcast, 70-76° F, wind 0-5 mph	Coastal California gnatcatcher survey #2, section 2
July 19, 2003	Robin Church	0630-0900; Overcast, 70-76°F, wind 0-5 mph	Coastal California gnatcatcher survey #3, section 1



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Regional Location Map

BIOLOGICAL TECHNICAL REPORT FOR THE SUGARBUSH RESIDENTIAL PROJECT

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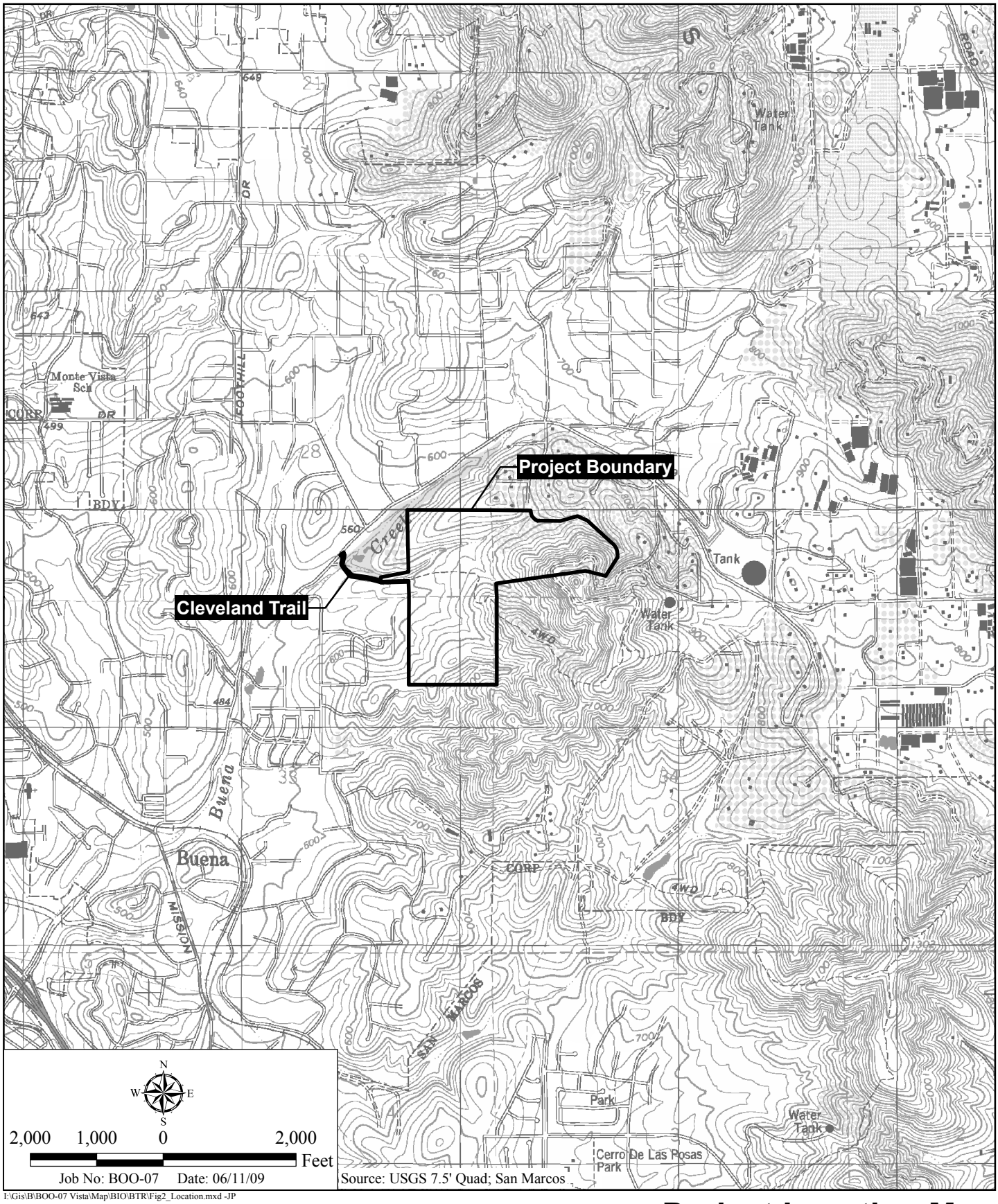
Figure 1



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Project Location Map

BIOLOGICAL TECHNICAL REPORT FOR THE SUGARBUSH RESIDENTIAL PROJECT

HELIX

Figure 2

Table 1 (cont.) SURVEY INFORMATION			
SURVEY DATE	**PERSONNEL**	**TIMES AND WEATHER CONDITIONS**	**PURPOSE**
July 24, 2003	Robin Church	0730-0945; Overcast to clear, 69-76°F, wind 0-5 mph	Coastal California gnatcatcher survey #3, section 2
February 18, 2009	W. Larry Sward Brian Parker	N/A	Revised vegetation mapping and wetland delineation
March 12, 2009	Jason Kurnow Deborah Leonard	0845-1200; Mostly cloudy, 56-59°F, wind 0-2 mph	Coastal California gnatcatcher survey #1
March 20, 2009	Jason Kurnow Deborah Leonard	0830-1200; Overcast to clear, 56-73°F, wind 0-4 mph	Coastal California gnatcatcher survey #2
March 27, 2009	Jason Kurnow Deborah Leonard	0830-1130; Clear, 56-72°F, wind 0-2 mph	Coastal California gnatcatcher survey #3
June 4, 2009	Greg Mason Brian Parker	N/A	Update resource mapping along Cleveland Trail
August 13, 2009	Brian Parker	N/A	Conduct resource mapping at the Buena Creek Road/Sugarbush Drive intersection

2.2 WETLAND DELINEATION

A formal delineation of jurisdictional areas on the Sugarbush project site was conducted by HELIX biologistsW. Larry Sward and Scott Taylor on March 13, 2002. Follow-up visits were conducted by Mr. Sward on February 18, 2009 and Greg Mason and Brian Parker on June 4, 2009 to verify jurisdictional status of areas adjacent to Cleveland Trail. All areas with depressions or drainage channels were evaluated for the presence of Waters of the U.S., including jurisdictional wetlands. Each area was inspected according to U.S. Army Corps of Engineers (Corps) wetland delineation guidelines. Wetland boundaries of the Corps were determined using the three criteria (vegetation, hydrology, and soils) established for wetland delineations as described within the Wetlands Delineation Manual (Environmental Laboratory 1987). Streambeds and wetland boundaries of the California Department of Fish and Game (CDFG) and County Resource Protection Ordinance (RPO) jurisdiction wetlands habitats were also determined. Other references used to determine jurisdictional areas included vegetation and topographic maps of the site and a recent aerial photo.

2.3 SURVEYED SPECIES

Due to extensive amounts of Diegan coastal sage scrub present on site, protocol surveys for the coastal California gnatcatcher were performed. Protocol gnatcatcher surveys were conducted by HELIX biologist Scott Taylor in 2002, by subconsultant Robin Church in 2003, and HELIX biologists Jason Kurnow and Deborah Leonard in 2009 (Table 1). All suitable habitat was surveyed three times during each survey year according to the latest (1997) U.S. Fish and Wildlife Service (USFWS) protocol for presence/absence of the species. The survey route followed the dirt roads and trails where available and went through brushy areas where roads or trails were not available. A taped vocalization was played sparingly during each survey. Generally, the tape was played for no longer than five seconds, at intervals of eight minutes or longer. Identification of coastal California gnatcatchers was made by visual observation (with the aid of binoculars, where necessary) or by detection of vocalizations.

2.4 SURVEY LIMITATIONS

Animal species identifications were made by direct visual observation, detection of vocalizations, or indirectly by observation of scat, tracks, or other sign. However, many nocturnal, secretive, or seasonally restricted animal species may not have been observed during the zoological surveys. Examples include rodents, migrant birds that winter in or visit the project study area, nocturnal lizards, snakes, bats, and many invertebrate species. Focused surveys generally are not performed unless the animal species is federally or state listed.

The majority of surveys were performed during one of the driest years on record for the County; therefore, many potentially occurring annual plants may not have been detectable on site at the time of the surveys. Rainfall in 2003 was close to normal, and conditions on site were suitable for most rare plants to have been observed if they were present on site.

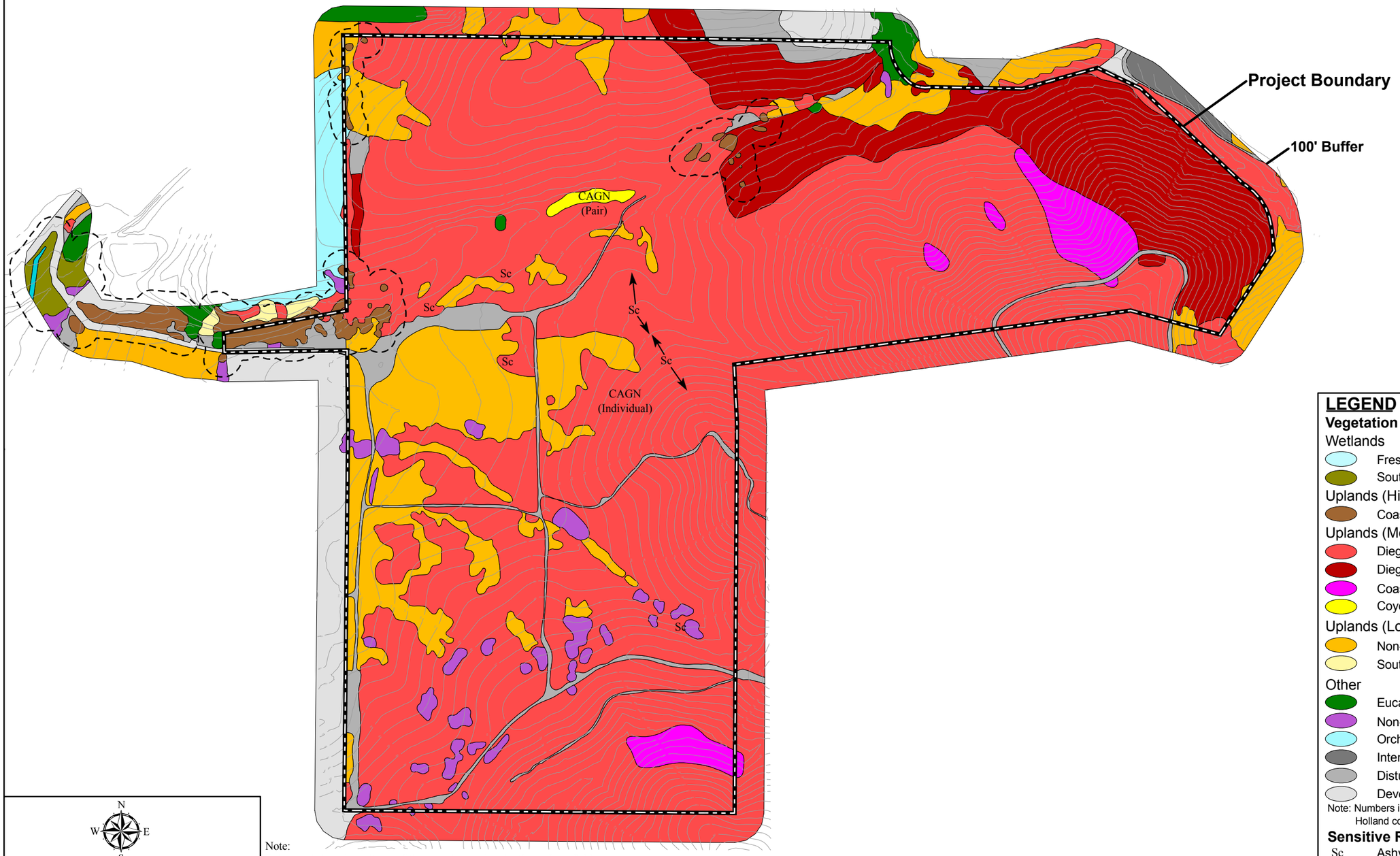
2.5 NOMENCLATURE

Nomenclature for this report is from Hickman, ed. (1993) and Beauchamp (1986) for plants; Holland (1986) for vegetation communities; Collins and Taggart (2002) for reptiles and amphibians; the American Ornithologists' Union (1998) for birds; and Jones et al. (1997) for mammals. Sensitive plant and animal status is taken from the CDFG (2009, 2003a, and 2003b). Sensitive plant species habitats and blooming periods were determined from the California Native Plant Society ([CNPS] 2001).

3.0 RESULTS OF FIELD SURVEYS AND MAPPING

3.1 VEGETATION COMMUNITIES/HABITATS THAT OCCUR ON SITE

Ten vegetation communities/habitats occur within the proposed project site (Table 2; Figure 3). Descriptions of these communities are provided below.



LEGEND

Vegetation

Wetlands
- Freshwater Marsh (52400)
- Southern Coast Live Oak Riparian Forest (61310)

Uplands (High Sensitivity)
- Coast Live Oak Woodland (71160)

Uplands (Moderate Sensitivity)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub Disturbed (32500)
- Coastal Sage - Chaparral Scrub (37G00)
- Coyote Brush Scrub (32000)

Uplands (Low Sensitivity)
- Non-native Grassland (42220)
- Southern Mixed Chaparral (37120)

Other
- Eucalyptus Woodland (11100)
- Non-native Vegetation (11000)
- Orchard (18100)
- Intensive Agriculture (18200)
- Disturbed Habitat (11300)
- Developed (12000)

Note: Numbers in parentheses represent the Holland code for the vegetation type.

Sensitive Resources
- Sc Ashy Spike-moss *(Selaginella cinerascens)*
- CAGN Coastal California Gnatcatcher *(Polioptila californica californica)*
- Oak Root Zone

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Note:
This map is based on site conditions as observed at the time of our field investigations. The information presented herein was developed by visual inspection and/or aerial photograph interpretation. Note that both site conditions and applicable regulatory requirements may change.

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Vegetation and Sensitive Resources

BIOLOGICAL TECHNICAL REPORT FOR THE SUGARBUSH RESIDENTIAL PROJECT

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Figure 3

Table 2 ON-SITE VEGETATION COMMUNITIES/HABITATS	
VEGETATION COMMUNITY/HABITAT*	**ACRE(S)**
High Sensitivity	
Coast live oak woodland (71160)	1.0
Moderate Sensitivity	
Diegan coastal sage scrub (including disturbed; 32500)	91.3
Coastal sage-chaparral scrub (37G00)	2.8
Coyote brush scrub (32000)	0.3
Low Sensitivity	
Non-native grassland (42200)	13.5
Other	
Eucalyptus woodland (11100)	0.2
Non-native vegetation (11000)	2.0
Disturbed habitat (11300)	4.1
Orchard (181000)	0.1
Developed land (12000)	0.2
TOTAL	**115.5**

*Vegetation categories and numeric codes are from Holland (1986).

3.1.1 Coast Live Oak Woodland

This is an open to dense evergreen woodland or forest community dominated by coast live oak (*Quercus agrifolia*), which may reach a height of 35 to 80 feet. This community occurs along the coastal foothills of the Peninsular Ranges, typically on north-facing slopes and shaded ravines (Holland 1986). This community occurs on site primarily along the western stretch of the main drainage as it exits the property on the western side and as scattered individual trees elsewhere. Additional species within the coast live oak woodland include poison oak (*Toxicodendron diversilobum*), San Diego honeysuckle (*Lonicera subspicata*), and chess species (*Bromus* sp.). Coast live oak woodland covers approximately 1.0 acre of the proposed project site.

Coast live oaks have broad root systems that are assumed to extend well beyond the tree canopy. Because these roots are considered sensitive to ground disturbance, the County requires that a root zone be mapped beyond the canopy of all areas of coast live oak woodland. Generally, the County assumes that oak roots extend 50 feet beyond the oak canopy; however, this assumption does not account for variation between individual trees. The oak woodland associated with the main drainage in the north-central portion of the site is very sparse and supports mostly immature trees with very small canopies. Although many trees in this area meet the County's trunk diameter requirement for an oak woodland (6 inches at breast height), their canopies are small and do not overlap. The root zone for trees in this area is assumed to be proportional to the canopy diameter of each tree. Therefore, a tree with a 50-foot canopy would have a 50-foot root zone beyond its canopy, and a tree with a 30-foot canopy would have a 30-foot root zone beyond its canopy.

3.1.2 Diegan Coastal Sage Scrub (including disturbed)

Diegan coastal sage scrub is a vegetation community commonly characterized by drought-adapted subshrubs such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and black sage (*Salvia mellifera*). This habitat community dominates the proposed project site. Additional species, such as laurel sumac (*Malosma laurina*), lemonadeberry (*Rhus integrifolia*), and fuchsia-flower gooseberry (*Ribes speciosum*), also occur on site. The area of Diegan coastal sage scrub on site can be separated by floristic composition into two areas. The western, flatter area and the ridge in the northern portion of the site support a California sagebrush-dominated sage scrub, whereas the steep slopes of the east and south support laurel sumac and black sage-dominated sage scrub.

Disturbed Diegan coastal sage scrub primarily occurs in the northeastern portion of the site, where adjacent homeowners have cleared vegetation on site to create a fire buffer around their homes and on terraced slopes previously used to grow avocados. This area is characterized by an increased number of non-native grasses and less cover, especially on the north-facing slopes. Native coastal sage scrub species are recovering within the disturbed areas. Diegan coastal sage scrub, including disturbed areas, covers approximately 91.3 acres of the site.

3.1.3 Coastal Sage-Chaparral Scrub

Coastal sage-chaparral scrub is a mixture of sclerophyllous chaparral shrubs and drought-deciduous sage scrub species regarded as an ecotone (or transition) between the two vegetation communities. This singular community contains floristic elements of both communities, including California sagebrush, California buckwheat, laurel sumac, scrub oak (*Quercus berberidifolia*), and chamise (*Adenostoma fasciculatum*). Coastal sage-chaparral scrub occurs in various north-facing areas throughout the site and covers approximately 2.8 acres.

3.1.4 Coyote Brush Scrub

Coyote brush scrub, which is identified as a distinct community despite not being described by Holland (1986), is dominated by coyote brush (*Baccharis pilularis*) and typically occurs in low-lying areas. Mexican elderberry (*Sambucus mexicana*) is also found within this habitat on site. Coyote brush scrub covers approximately 0.3 acre and occurs within the central portion of the proposed project site.

3.1.5 Non-native Grassland

Non-native grassland is dominated by non-native grass species such as chess species (*Bromus* spp.), oat species (*Avena fatua* and *A. barbata*), and ryegrass (*Lolium multiflorum*) but also can contain some native grasses as well as native and non-native forbs. Non-native grassland occurs in several places throughout the project site often adjacent to or within coastal sage scrub. This habitat covers approximately 13.5 acres of the project site.

3.1.6 Eucalyptus Woodland

As its name implies, eucalyptus woodland is dominated by trees of the species *Eucalyptus*. The understory within well-established groves is usually very sparse due to the closed canopy and allelopathic nature of the leaf litter. As a wildlife habitat, these woodlands provide excellent nesting sites for a variety of raptors. During winter migrations, a large variety of warblers may be found feeding on the insects that are attracted to the eucalyptus flowers. The sparse understory offers only limited wildlife habitat. Within the proposed project site, eucalyptus woodland occurs in two areas (the northwestern and northeastern corners) and covers approximately 0.2 acre.

3.1.7 Non-native Vegetation

Non-native vegetation is the name ascribed to cultivated plants that have become naturalized in native habitat areas or that are remnant of previous cultivated land uses. Non-native vegetation on site consists of scattered olive (*Olea europaea*) trees in the southern portion of the site. This habitat type covers approximately 2.0 acres of the project site.

3.1.8 Disturbed Habitat

Disturbed habitat includes land cleared that provide little to no habitat value to native animal species or contains a preponderance of non-native plant species. Disturbed habitat consists of unpaved roads, areas used for beehives on the western portion of the site, and areas where wood clippings have been dumped. Disturbed habitat covers approximately 4.1 acres of the project site.

3.1.9 Orchard

The canopies of several avocado trees (*Persea americana*) associated with an orchard on the property adjacent to the northwestern site boundary overlap the property boundary. Approximately 0.1 acre of orchard occurs on site.

3.1.10 Developed

Developed land is where permanent structures and/or pavement have been placed or where maintained landscaping occurs preventing the growth of native vegetation. Within the project site, developed land includes fire clearing for residential units to the north and a small area of pavement in the west, totaling approximately 0.2 acre.

3.2 VEGETATION COMMUNITIES/HABITATS THAT OCCUR OFF SITE

Thirteen vegetation communities were mapped off site: southern coast live oak riparian forest, freshwater marsh, coast live oak woodland, Diegan coastal sage scrub (including disturbed), coastal sage-chaparral scrub, southern mixed chaparral, non-native grassland, eucalyptus woodland, non-native vegetation, orchard, intensive agriculture, disturbed habitat, and developed

land. Of these, four vegetation communities (southern coast live oak riparian forest, freshwater marsh, southern mixed chaparral, and intensive agriculture) do not occur on site and are described below. The two small coast live oak trees occurring at the edge of the coastal sage scrub south of Buena Creek Road, west of Sugarbush Drive do not comprise a vegetation community.

3.2.1 Southern Coast Live Oak Riparian Forest

Southern coast live oak riparian forest is an open to locally dense evergreen sclerophyllous riparian woodland that is dominated by coast live oak (*Quercus agrifolia*). This community, which may reach a height between 35 and 80 feet, generally occurs on fine-grained alluvial soils on the floodplains along large streams in the canyons and valleys of coastal southern California (Holland 1986). Although no southern coast live oak riparian forest occurs on site, a patch was mapped adjacent to the off-site Cleveland Trail improvement area. This area is characterized primarily by coast live oak and Mexican fan palm (*Washingtonia robusta*). Understory areas directly along Buena Creek are dominated by exotic components such as castor bean (*Ricinus communis*), ivy (*Hedera* sp,), ash (*Fraxinus* sp.) saplings, and umbrella sedge (*Cyperus alternifolius*). Most of the riparian forest outside Buena Creek contains a sparse understory consisting of poison oak, exotic grasses, and ornamental cactus (*Opuntia* sp.) and yucca (*Yucca* sp.) species. The southern coast live oak riparian forest also contains abundant trash, debris, and other materials that have been dumped in this area.

3.2.2 Freshwater Marsh

Freshwater marsh is typically dominated by perennial, emergent monocots that can reach a height of 12 feet, often forming completely closed canopies. This habitat usually occurs on drainages and ponds lacking significant current but permanently flooded by fresh water. Prolonged saturation permits accumulation of deep, peaty soils. Although no freshwater marsh occurs on site, a small area was mapped southwest of the intersection of Buena Creek Road and Cleveland Trail.

3.2.3 Southern Mixed Chaparral

Southern mixed chaparral is composed of tall (between 10 and 20 feet), broad-leaved sclerophyllous shrubs that often form nearly impenetrable stands on mesic, rocky north-facing slopes. It generally has a poorly developed understory, but instead may contain a large component of dead plant matter. It is common within San Diego County, and may provide important habitat for wide-ranging species such as mule deer (*Odocoileus hemionus*), mountain lion (*Felis concolor*), and golden eagle (*Aquila chrysaetos*), which have not been observed on site.

3.2.4 Intensive Agriculture

Intensive agriculture includes dairies, nurseries, and chicken ranches. In the project vicinity, a small palm tree nursery is mapped as intensive agriculture just off site to the northeast. As they

are subject to regular human maintenance, areas mapped as intensive agriculture provide only limited habitat value and are not considered sensitive.

3.3 JURISDICTIONAL AREAS

3.3.1 Corps Jurisdictional Areas

Within the project site, jurisdictional areas occur along the main drainage in the north of the site and in the small canyons that run up the hills in the eastern portion of the site (Figure 4). Corps jurisdictional areas on site comprise 0.12 acre of non-wetland Waters of the U.S.

Off-site, Corps jurisdictional areas occur along Cleveland Trail near Buena Creek Road. A patch of freshwater marsh is mapped as a Corps jurisdictional wetland. Buena Creek is a perennial stream and is mapped as a Corps jurisdictional non-wetland Water of the U.S. because, while it is a perennial stream, no hydrophytic vegetation grows within its banks in the study area. The southern coast live oak riparian forest outside of Buena Creek does not support appropriate hydrological characteristics to be considered Corps jurisdictional.

3.3.2 CDFG Jurisdictional Areas

Approximately 0.80 acre of CDFG jurisdictional area occurs on site, including 0.62 acre of coast live oak woodland, 0.06 acre of coyote brush scrub along a drainage in the north-central portion of the property, and 0.12 acre of unvegetated streambed. CDFG jurisdictional areas also occur off site immediately north of the panhandle and near the intersection of Cleveland Trail and Buena Creek Road. The southern coast live oak riparian forest and freshwater marsh in the vicinity of Cleveland Trail are mapped as CDFG jurisdictional wetlands. Buena Creek is also a CDFG jurisdictional streambed. The coast live oak woodland situated between Buena Creek and the western panhandle is not CDFG jurisdictional. The location at which the oaks are rooted is adjacent to an existing road and developed areas, and is substantially above the level of the nearby drainage. Additionally, no evidence of aboveground flows was detected in this area during the jurisdictional delineation.

3.3.3 County RPO Wetlands

The County Resource Protection Ordinance (RPO; County 2007) considers wetlands and wetland buffers to be sensitive habitats and regulates potential impacts to them. Wetlands are defined in the RPO as transitional lands between terrestrial and aquatic systems and must reflect one or more of the following attributes:

- At least periodically, the land supports a predominance of hydrophytes (plants whose habitat is water or very wet places);
- The substratum is predominantly undrained hydric soil; or
- It is an ephemeral or perennial stream, whose substratum is predominantly non-soil and contributes substantially to the biological functions or values of wetlands in the drainage system.

None of the drainages on site supports a predominance of hydrophytes, have predominantly undrained hydric soils, or have a non-soil substrate; therefore, no County RPO wetlands occur on site. County RPO wetlands occur off site near the intersection of Buena Creek Road and Cleveland Trail. As a perennial stream with a predominately non-soil substrate, Buena Creek is considered a County RPO wetland. The freshwater marsh west of Cleveland Trail also is considered a County RPO wetland because it is dominated by cattails, which are considered hydrophytes. Outside of the freshwater marsh and Buena Creek itself, vegetation is dominated by upland plants like coast live oak and palm trees, with upland understory vegetation. The southern coast live oak riparian forest beyond the banks of Buena Creek is not considered a County RPO wetland because it does not contain predominately hydrophytes, does not have undrained hydric soil, and is located beyond the banks of the perennial stream.

Wetland buffers are defined in the RPO as areas that "provide a buffer area of an appropriate size to protect the environmental and functional habitat values of the wetland, or which are integrally important in supporting the full range of the wetland and adjacent upland biological community." Based on this definition, the wetland buffer for Buena Creek and the associated freshwater marsh comprises all habitat within 50 feet of these features, expanded where applicable to include all of the adjacent southern coast live oak riparian forest (Figure 4).

3.4 PLANT SPECIES OBSERVED ON SITE

A total of 68 plant species were observed during the vegetation mapping and sensitive plant surveys. Appendix A provides a complete list of plant species observed on site.

3.5 ANIMAL SPECIES OBSERVED OR DETECTED ON SITE

A total of 7 butterfly species (among other invertebrate species), 1 reptile species, 26 bird species, and 5 mammal species were observed/detected during the general zoology and coastal California gnatcatcher surveys. Appendix B provides a complete list of the animal species observed on site.

4.0 SENSITIVE RESOURCES

Sensitive resources are those defined as: (1) unique habitat areas or vegetation communities that have relatively limited distribution or that are of particular value to wildlife; and (2) species given special recognition by federal, state, or local government agencies and organizations due to limited, declining, or threatened populations.

4.1 SENSITIVE VEGETATION COMMUNITIES

The following vegetation communities mapped for the project are considered sensitive: southern coast live oak riparian forest, freshwater marsh, coast live oak woodland, Diegan coastal sage scrub, coastal sage-chaparral scrub, coyote brush scrub, and non-native grassland.

LEGEND

Jurisdictional Features

- Freshwater Marsh
- Southern Coast Live Oak Riparian Forest
- Coast Live Oak Woodland
- Coyote Brush Scrub
- CDFG Jurisdictional Area
- Corps, County RPO Wetland
- Corps Waters of the U.S./CDFG Streambed*
- County RPO Wetland Buffer

* Widths are shown in feet.

N
W E
S

350 175 0 350

Feet

Job No: BOO-07 Date: 10/07/09

I:\Gis\B\BOO-07 Vista\Map\BIO\BTR\Fig4_Jurisdictional_Delineation.mxd -NM

Note:
This map is based on site conditions as observed at the time of our field investigations. The information presented herein was developed by visual inspection and/or aerial photograph interpretation. Note that both site conditions and applicable regulatory requirements may change.

Jurisdictional Delineation

BIOLOGICAL TECHNICAL REPORT FOR THE SUGARBUSH RESIDENTIAL PROJECT

HELIX

Figure 4

4.2 SENSITIVE PLANT SPECIES OBSERVED

No federally or state listed threatened or endangered plant species were observed on site; however, one species recognized as sensitive by the County was observed: ashy spike-moss (*Selaginella cinerascens*). A brief description of this species is provided below. Refer to Appendix E for a listing and explanation of status codes.

Ashy spike-moss (*Selaginella cinerascens*)
Status: --/--; County List D
Distribution: San Diego and Orange counties; Baja California, Mexico (Baja)
Habitat(s): Undisturbed chaparral and Diegan coastal sage scrub are often utilized by this prostrate perennial groundcover. Many soil types are utilized with Redding cobbly loam apparently an optimal soil type.
Status on site: Populations of ashy spike-moss were observed in several locations throughout the site, primarily in Diegan coastal sage scrub and non-native grassland habitats.

4.3 SENSITIVE PLANT SPECIES WITH POTENTIAL TO OCCUR

While the project site was surveyed for rare plants, there is a possibility that one or more sensitive plant species were missed due to extraordinarily dry conditions in 2001-2002. As a result, an additional rare plant survey was performed in 2003 during a more normal rainfall year. This survey did not reveal any more sensitive species. Potentially occurring sensitive plant species were assessed based on known distribution, habitat requirements, and existing site conditions. Despite the findings of the two rare plant surveys, some sensitive plant species still have some potential to occur on the site. Sensitive plant species not observed but with potential to occur on site are listed and discussed in Appendix C. The species are listed by status and alphabetized (by scientific name) where status is the same.

4.4 SENSITIVE ANIMAL SPECIES OBSERVED

One federally listed threatened species (the coastal California gnatcatcher) was observed on site; in addition, three County sensitive species (red-shouldered hawk [*Buteo lineatus*], turkey vulture [*Cathartes aura*], and white-tailed kite [*Elanus leucurus*], were observed. A brief description of each species is provided below. Refer to Appendix E for a listing and explanation of status codes for plant and animal species. Appendix F includes all coastal California gnatcatcher survey reports prepared for the project.

Coastal California gnatcatcher (*Polioptila californica californica*)
Status: FT/CSC; County Group 1
Distribution: Southern Los Angeles, Orange, western Riverside, and San Diego counties south into Baja.
Habitat(s): Coastal sage scrub of varying subtypes, sometimes riparian, chaparral, and other habitats as well.
Status on site: One coastal California gnatcatcher pair was observed in the coyote brush scrub habitat in the middle of the project site in 2002. One individual was observed within Diegan coastal sage scrub in the center of the project site during one of three surveys in 2003 and 2009.

Red-shouldered hawk (*Buteo lineatus*)
Status: --/--; County Group 1
Habitat(s): Found in open woodlands, grasslands and agricultural fields. Prefers mature eucalyptus stands, oak woodlands, and riparian forests.
Status on site: Soaring overhead

Turkey vulture (*Cathartes aura*)
Status: --/--; County Group 1
Distribution: Widespread in western states, year round in coastal California, southern Arizona, Texas, and points further south.
Habitat: Usually observed soaring overhead above landscape.
Status on site: Soaring overhead

White-tailed kite (*Elanus leucurus*)
Status: --/Fully Protected; County Group 1
Distribution: Primarily occurs throughout coastal slopes of San Diego County
Habitat(s): Riparian woodlands and oak or sycamore groves adjacent to grassland
Status on site: Observed flying over the coast live oak woodland in the western portion of the site

4.5 SENSITIVE ANIMAL SPECIES WITH POTENTIAL TO OCCUR

Listed or sensitive animal species with potential to occur on site are listed in Appendix D. The species are grouped into invertebrates and vertebrates (amphibians, reptiles, birds, and mammals), listed by status, and alphabetized (by scientific name) where status is the same. Refer to Appendix E for a listing and explanation of status codes for plant and animal species.

4.6 REGIONAL AND REGULATORY CONTEXT

The biological resources on the project site are assessed in terms of their local importance to federal, state, and local jurisdictions and their regional and national importance with regard to federal and state regulations.

4.6.1 Evaluation of Resources

The project site encompasses a large block of undeveloped land, the majority of which is vegetated with native habitats. It supports 10 vegetation communities/habitat types, including 5 that are considered sensitive: coast live oak woodland, Diegan coastal sage scrub (including 12.6 acres of disturbed), coastal sage-chaparral scrub, coyote brush scrub, and non-native grassland. A number of species occurring or potentially occurring on the project study area are considered sensitive by the federal, state, and County governments, with most being typically associated with Diegan coastal sage scrub habitat. The habitat of greatest value within the project study area is the Diegan coastal sage scrub, since it supports many sensitive plant and animal species, including ashy spike-moss, coastal California gnatcatcher, red-tailed hawk, turkey vulture, and white-tailed kite. The site may support other federal or state animal species of special concern and rare plant species. However, this potential has not been substantiated by surveys carried out on site.

The project site is shown as very high quality habitat in the northwest and south, high to moderate quality in the center of the project site, and agriculture in the eastern portion of the site on the Habitat Evaluation Model (HEM) for this portion of the County. The coastal sage scrub of highest quality for sensitive species is found on the flatter areas in the west of the site and on the ridge on the northwest of the site. Despite this high quality habitat, the site does not seem to support significant populations of sensitive species.

Two types of wildlife corridors potentially occur on site: local and regional. Local corridors allow animal access to resources such as food, water, and shelter. Animals can use these corridors (such as the hillsides and tributary drainages to the main drainage on site) to travel from riparian to upland habitats and back. Currently, wildlife may access Buena Creek from the site by traversing upland habitat and by following the east-west running drainage in the northern portion of the site. Access to Buena Creek from the site is somewhat limited by the existing residential development abutting the western site boundary. Local wildlife movement is more restricted within Buena Creek because it becomes a narrow channel running along Buena Creek Road with numerous intervening crossings and culverts. Based on the limited access, small area, adjacent development, and relatively small number of animal species observed during field studies, local wildlife movement is considered to be limited.

Regional corridors provide access functions as well but also link two or more major areas of undeveloped land. The project site is at the northwest corner of a large block of undeveloped land that extends south to Palomar College and State Route 78 in San Marcos. This large block of habitat is isolated by urban and suburban development and agriculture from large habitat area located to the north, south, and west. The large block of habitat of which this site is a part is partially located in a portion of San Marcos that is within the City of San Marcos' draft Multiple Habitat Conservation Plan (MHCP) Focused Planning Area (FPA). Projects that would compromise the habitat function in this area are under review or are being planned in the City. The USFWS, CDFG, and County also have indicated the project site may function as a "stepping stone" corridor for bird species to areas off site to the north and west. Visual continuity from the site with the closest large block of habitat (San Marcos Mountains) one-half mile north is blocked from all but the highest slopes and ridges on site. This, combined with the apparent lack of significant population of sensitive resources, suggests the site may not play a significant role in regional wildlife movement.

The on-site tributary drainage to Buena Creek that ultimately enters Agua Hedionda Creek may provide some corridor function for wildlife movement between the site and the Agua Hedionda Lagoon, but part of it runs through developed areas of Vista and Carlsbad, compromising that potential function.

Coastal Sage Scrub

Pursuant to the state Natural Communities Conservation Planning (NCCP) Guidelines (1993), the coastal sage scrub habitat evaluation rated the site as having intermediate potential value for long-term conservation because:

- The coastal sage scrub on the site is large in size but it is not the most dense in the subregion, it being part of a satellite area, several miles north of the Subregional Focus area that runs from south of Lake Hodges to western Carlsbad;

- The land is close to a higher value district represented by the larger acreage of coastal sage scrub to the south, mostly within the City of San Marcos; and

- The site does not support significant populations of target species. One pair of coastal California gnatcatchers was observed on site during surveys in 2002, and only one individual was observed during protocol surveys in 2003 and 2009. Additionally, only one sensitive plant species (ashy spike-moss, a List D species) has been found on site.

Overall, the site's main value is in its provision of a large acreage of habitat for native wildlife rather than for the sensitive species it supports or any function it may play in regional wildlife movement. Function as a regional wildlife corridor was not apparent because of the absence of sign of indicator species. This may be due to the fact that topography and surrounding development restrict movement north, east, and west of the site.

4.6.2 Regulatory Issues

Laws and regulations that apply include the federal Endangered Species Act (ESA), Clean Water Act, CEQA, California Fish and Game Code, and County's RPO. Under CEQA, impacts associated with a proposed project or program are assessed with regard to significance criteria determined by the CEQA Lead Agency (in this case, the County) and pursuant to State CEQA Guidelines.

The USFWS takes jurisdiction over species listed as threatened or endangered under the ESA. The USFWS would require take authorization pursuant to the ESA for take of the federally listed threatened coastal California gnatcatcher and its Diegan coastal sage scrub habitat. A Section 10(a) permit may be pursued, which is a take authorization solely permitted by the USFWS. Alternately, impacts to gnatcatchers could be authorized through a Section 7 consultation with the USFWS. A Section 7 consultation can occur when there is a nexus between listed species' (in this case, the gnatcatcher) use of the site and Corps jurisdictional areas or other federal agency actions. A special provision for coastal California gnatcatchers under Section 4(d) of the ESA allows the County to issue a take authorization with concurrence from the USFWS and CDFG. The appropriate permit will be determined by the USFWS, CDFG, and County.

The MBTA is a federal statute that prohibits "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention... for the protection of migratory birds... or any part, nest, or egg of any such bird." This statute allows the USFWS to enforce the prohibition of direct "taking" of active nests. Implementation of this law typically includes restrictions on development activities when sensitive nesting birds, including raptors, are present.

Discharge of fill into Waters of the U.S. is regulated by the Corps under Section 404 of the federal Clean Water Act. The California Regional Water Quality Control Board (RWQCB) provides waivers or certifications under Section 401 of the Clean Water Act. Impacts to Corps jurisdictional areas would require a permit under Section 404 and a waiver or certification under Section 401 of the Clean Water Act. All Waters of the U.S., CDFG habitat, and County wetlands impacts must be mitigated in conformance with federal, state, and County no net-loss standards. Mitigation for potentially significant impacts is required pursuant to CEQA for impacts to biological as well as other resources.

The California Fish and Game Code regulates species listed as threatened or endangered under the California Endangered Species Act (CESA) and impacts to rivers, streams, or lakes from which plants or wildlife derive benefit under Section 1600. Although the County is enrolled in a subregional NCCP plan, the CDFG administers the NCCP Guidelines as a Trustee Agency for the project. For this reason, the project would need to demonstrate conformance with the NCCP Guidelines for take of Diegan coastal sage scrub as required for a 4(d) permit and would require permits pursuant to California Fish and Game Code Section 1602 for impacts to streambeds and other CDFG jurisdictional areas.

The County regulates impacts to biological resources though its RPO. Sensitive habitat lands, as defined therein, require avoidance or minimization of impacts or mitigation. The RPO also regulates wetlands and is implemented with a requirement to avoid impacts to the maximum extent practicable. The County also provides 4(d) permits under the ESA through its Habitat Loss Permit (HLP) Ordinance with concurrence from the USFWS and CDFG.

5.0 PROJECT IMPACTS

This section describes potential direct and indirect impacts associated with the proposed project. Direct impacts immediately alter the affected biological resources such that those resources are eliminated temporarily or permanently. This assessment identifies impacts to a total of 40.7 acres: 38.8 by project grading and brush management (including 0.4 acre within the oak root zone), 0.9 acre by habitat creation (see Section 6.1.1), and 1.0 acre by off-site improvements, including Cleveland Trail, water and sewer lines within/adjacent to that road, and improvements to the Buena Creek Road/Sugarbush Drive intersection. As described in Section 1.1, the project would be responsible for 16 feet of brush clearing, hand trimming, and grass brushing along Cleveland Trail off site; however, these measures are currently required under existing fire requirements. As a result, no new off-site brush management impacts are assessed to the project along Cleveland Trail. Other off-site improvements due to traffic mitigation would not cause further impacts to sensitive biological resources either on or off site because these activities would occur entirely within existing disturbed or developed areas. An existing right-of-way and utility easement bisects the proposed open space to the south of the proposed Sugarbush access road and a 0.2-acre sewer easement exists beneath Cleveland Trail in the western portion of the site. These easements would be maintained. Similarly, a portion of a 52-foot-wide private road and utility easement (for APN 184-80-03 to the south) would replace the existing 60-foot-wide easement across Lot 11. These easements are

considered impact-neutral. Habitat within it is not included within biological open space acreage and would not be applied toward the required project mitigation. Staging areas would be located within the area to be developed.

5.1 CRITERIA FOR DETERMINING SIGNIFICANCE

A significant impact under CEQA, with associated mitigation requirements, is assessed if the proposed project or program would:

- Have a substantial adverse effect either directly or through habitat modifications on any species identified as a listed candidate, sensitive, or special status species in regional or local plans, policies, or regulations;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the USFWS or CDFG;
- Have a substantial adverse effect on federal-protected wetlands through direct removal, filling, hydrological interruption or other means;
- Interfere substantially with the movement of any native resident, migratory fish or wildlife species, or with established native resident or migratory wildlife corridors; or
- Impede the use of native wildlife nursery sites or conflict with the provisions of an adopted Habitat Conservation Plan, NCCP, or other approved state, regional, or local habitat conservation plan.

In addition, the County specifically identifies a significant impact if the project proposes:

- Disturbance of land which supports unique vegetation communities pursuant to RPO;
- Direct loss of County-defined wetlands or riparian habitat;
- Direct loss of any coastal sage scrub; or
- Impacts to plants listed as by the County as County Group A or B species.

5.2 VEGETATION COMMUNITIES

The proposed project would impact a total of 40.7 acres (Table 3): 38.8 acres from on-site grading and brush management (including 0.4 acre within the oak root zone), 0.9 acre from habitat creation (see Section 6.1.1), and 1.0 acre from off-site improvements (water line, sewer line, road construction, and grading/clearing for intersection sight distance improvements). Based on the significance criteria listed above, impacts to coast live oak woodland, Diegan coastal sage scrub (including disturbed), and non-native grassland would be considered significant.

5.3 OAK ROOT ZONE

Impacts to the root zone of coast live oaks could be incurred because of project implementation (e.g. grading and soil compaction). Because brush management only involves removal of aboveground plant material and not disruption of the soil, it would only be anticipated to cause impacts to oak canopies, and not to the root system beneath. Additionally, root zone impacts are only assessed for oaks retained following project development (oaks that are directly impacted by project grading or brush management could not be further impacted by damage to their roots). A proposed sewer line would be aligned beneath Cleveland Trail in the western portion of the site, within the oak root zone. The majority of the new improvements in this area would occur on an existing paved road with the remainder on a compacted dirt road and other habitats. Because the paved road has already impacted the oak roots, the proposed project would not be responsible for oak root impacts within areas mapped as developed. The sewer pipeline near the intersection of Cleveland Trail and Buena Creek Road would be installed using a jacking and boring operation that installs the pipes underground without using standard trenching techniques. This method would not affect vegetation above ground level, but would impact 150 square feet of the oak root zone. Project effects within the existing footprint of Cleveland Trail, including road improvements and sewer and water line installation, would not be considered impacts to the oak root zone because they would be located within already compacted or developed road and any roots in these areas would have been previously impacted by the road. As described in Section 5.2, the project would impact approximately 0.4 acre within oak root zones.

Oak root zone impacts would occur in several locations. Grading for the proposed detention basin lot located just north of Lot 1 in the western portion of the site would occur within the root zone of the remaining oak woodland. The proposed public Sugarbush access road would impact the oak root zone along the main stretch of road in the central portion of the site and just east of the detention basin lot in the western portion of the site. (Four oaks that occur in the central portion of the site would be directly impacted by the road itself, so the root zones for these trees are not included in root zone impact calculations.) A small area of the oak root zone would be impacted by improvements to Cleveland Trail in the western portion of the project site and just off site to the west.

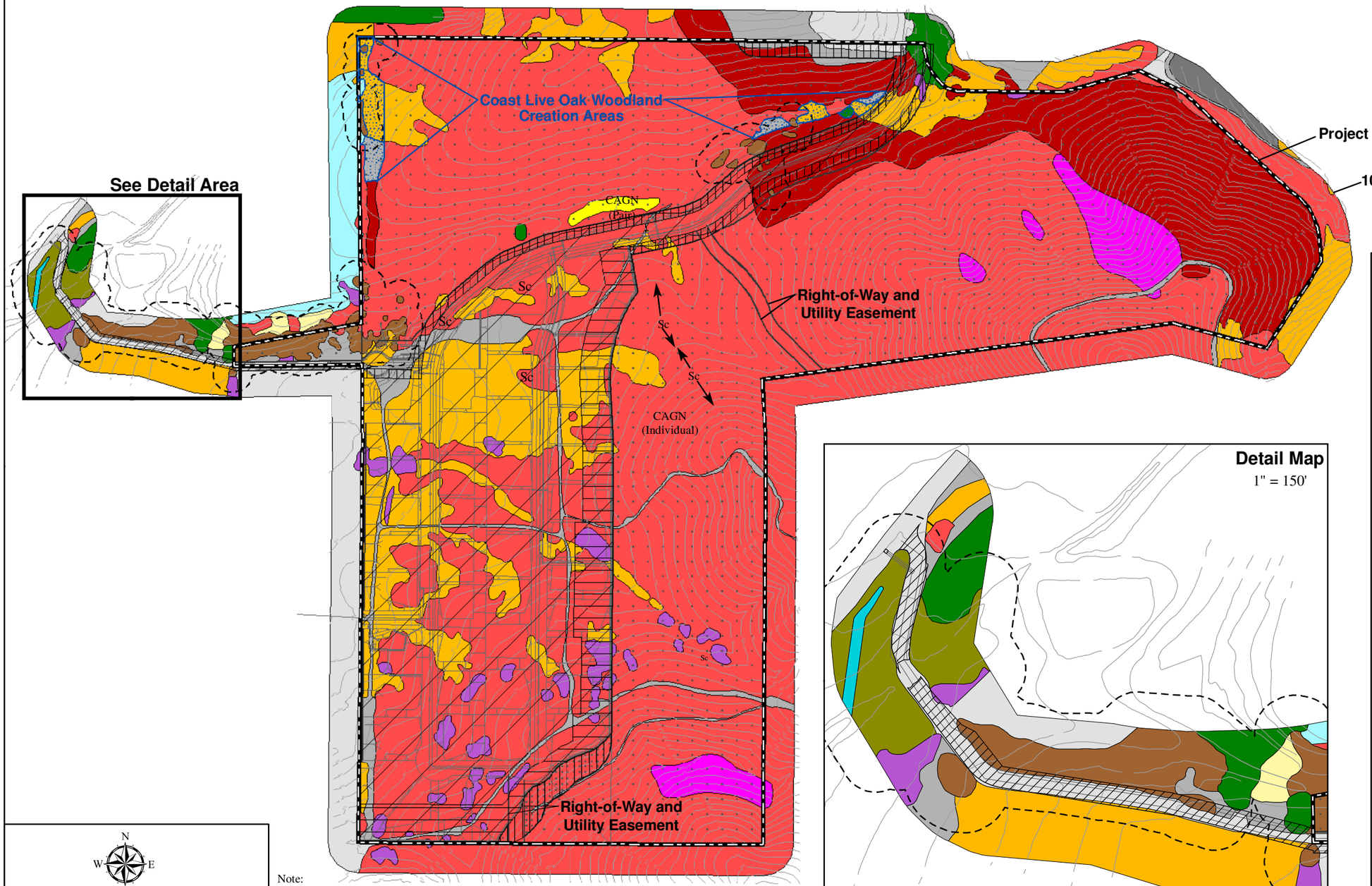
5.4 PLANT SPECIES

The proposed project would impact one sensitive plant species, ashy spike-moss, a County Group D species, which occurs within Diegan coastal sage scrub and non-native grassland throughout the central portion of the project site (Figures 5a and 5b). The impact is not considered significant due to the low level of sensitivity of this species and preservation of suitable habitat on site.

Table 3
IMPACTS TO VEGETATION COMMUNITIES*

VEGETATION COMMUNITY	EXISTING ON SITE	IMPACTS							Impact Neutral‡
		On Site				Off Site	Oak Root Zone	Total	
		Grading	Brush Mgmt	Habitat Creation†	Subtotal				
Wetlands									
Southern coast live oak riparian forest (81310)	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00	--
High Sensitivity									
Coast live oak woodland (71160)	1.0	0.1	0.0	0.0	0.1	0.1	0.4	0.6	0.5
Moderate Sensitivity									
Diegan coastal sage scrub (including disturbed; 32500)	91.3	21.7	1.4	0.0	23.1	0.2	--	23.3	0.5
Coastal sage-chaparral scrub (37G00)	2.8	0.0	0.0	0.0	0.0	0.0	--	0.0	--
Coyote brush scrub (32000)	0.3	0.0	0.0	0.0	0.0	0.0	--	0.0	--
Sage Scrub Subtotal	**94.4**	**21.7**	**0.7**	**0.0**	**23.1**	**0.0**	**--**	**23.3**	**0.5**
Low Sensitivity									
Non-native grassland (42200)	13.5	10.4	0.1	0.6	11.1†	0.0	--	11.1†	--
Other									
Eucalyptus woodland (11100)	0.2	0.1	0.0	0.0	0.1	0.0	--	0.1	--
Non-native vegetation (11000)	2.0	1.7	0.0	0.0	1.7	0.1	--	1.8	--
Disturbed habitat (11300)	4.1	2.4	0.3	0.3	3.0†	0.0	--	3.0†	0.2
Orchard (18100)	0.1	0.0	0.0	0.0	0.0	0.0	--	0.0	--
Developed land (12000)	0.2	0.1	0.1	0.0	0.2	0.6	--	0.8	--
TOTAL	**115.5**	**36.5**	**1.9**	**0.9**	**39.3†**	**1.0**	**0.4**	**40.7**	**1.2**

*All areas are presented in acre(s); wetlands are rounded to the nearest 0.01 acre; uplands are rounded to the nearest 0.1 acre
†0.6 acre of non-native grassland and 0.3 acre of disturbed habitat would be impacted by coast live oak woodland creation
‡Includes 0.7 acre of avoidance open space in the western panhandle and 0.5 acre within existing or proposed easements



LEGEND

Vegetation

Wetlands
- Freshwater Marsh (52400)
- Southern Coast Live Oak Riparian Forest (61310)

Uplands (High Sensitivity)
- Coast Live Oak Woodland (71160)

Uplands (Moderate Sensitivity)
- Diegan Coastal Sage Scrub (32500)
- Diegan Coastal Sage Scrub Disturbed (32500)
- Coastal Sage - Chaparral Scrub (37G00)
- Coyote Brush Scrub (32000)

Uplands (Low Sensitivity)
- Non-native Grassland (42220)
- Southern Mixed Chaparral (37120)

Other
- Eucalyptus Woodland (11100)
- Non-native Vegetation (11000)
- Orchard (18100)
- Intensive Agriculture (18200)
- Disturbed Habitat (11300)
- Developed (12000)

Note: Numbers in parentheses represent the Holland code for the vegetation type.

Sensitive Resources
- Sc — Ashy Spike-moss *(Selaginella cinerascens)*
- CAGN — Coastal California Gnatcatcher *(Polioptila californica californica)*
- Oak Root Zone

Project Features
- Grading Impacts
- Fuel Modification Zone
- Limited Building Zone
- Biological Open Space
- Steep Slope Open Space
- Coast Live Oak Woodland Creation Area

N W E S

350 175 0 350 Feet

Job No: BOO-07 Date: 07/28/09

Note:
This map is based on site conditions as observed at the time of our field investigations. The information presented herein was developed by visual inspection and/or aerial photograph interpretation. Note that both site conditions and applicable regulatory requirements may change.

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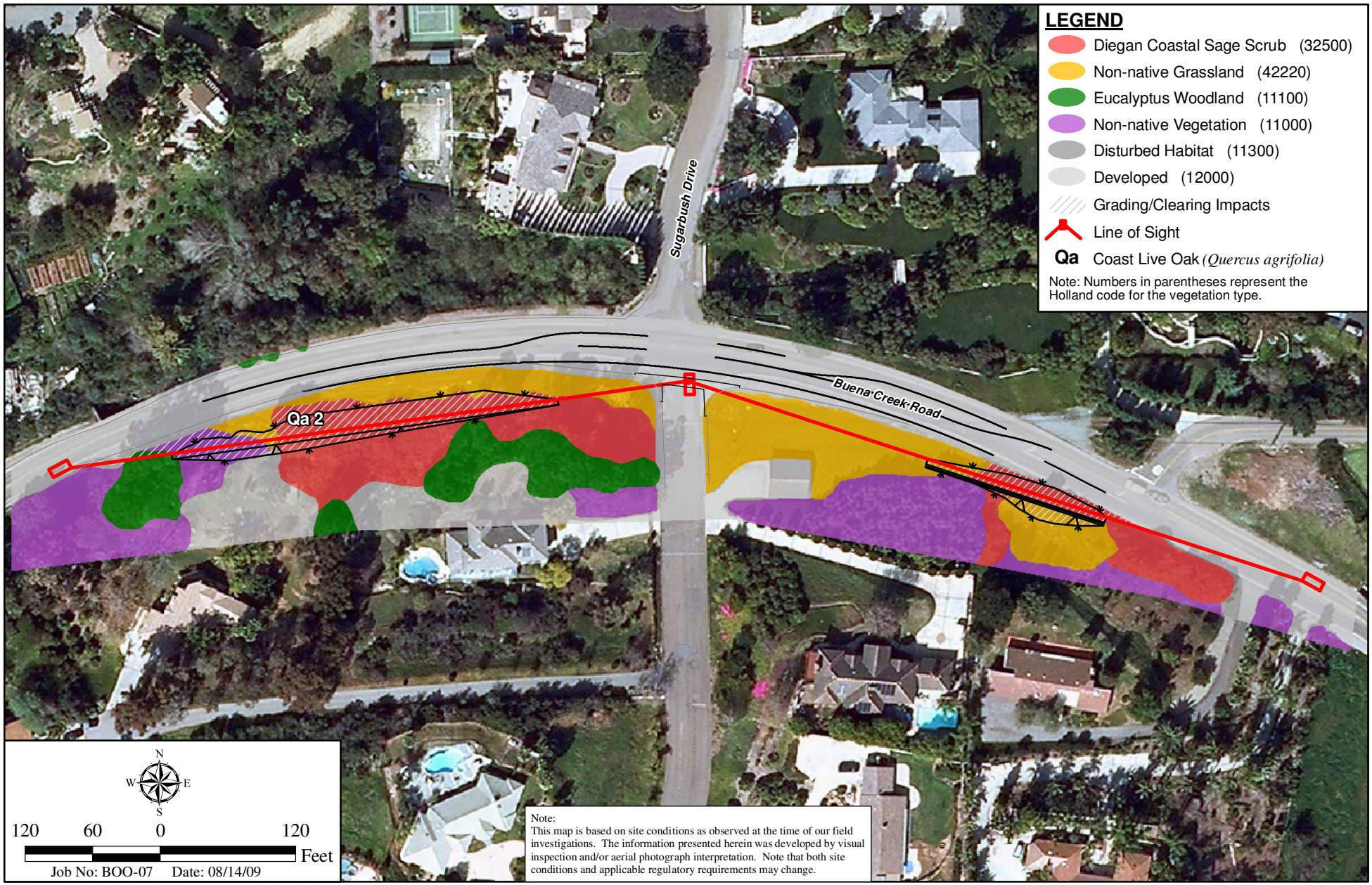
Vegetation and Sensitive Resources/Impacts and Open Space

BIOLOGICAL TECHNICAL REPORT FOR THE SUGARBUSH RESIDENTIAL PROJECT

HELIX

Figure 5a



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Vegetation and Sensitive Resources/Impacts and Open Space

SUGARBUSH

HELIX

Figure 5b

5.5 ANIMAL SPECIES

The proposed project could impact the coastal California gnatcatcher by direct loss of habitat, particularly Diegan coastal sage scrub (Figures 5a and 5b). Impacts to coastal California gnatcatcher habitat would be potentially significant because the gnatcatcher is a federally listed threatened species. One gnatcatcher pair was observed within the proposed project site in 2002, and a single individual was observed both in 2003 and 2009; however, because gnatcatcher territory mapping was not performed, the importance of habitats within the proposed project site to this species is not exactly clear. Territory mapping was not done because the mitigation is generally conducted for habitat under the assumption that all habitat is equally occupied. Avoidance of the location of the known birds and on-site preservation would reduce impacts to gnatcatchers to below a level of significance.

Although the impact to eucalyptus woodlands on site would not of itself be significant, these wooded areas can support nesting by various raptor species such as the red-tailed hawk (*Buteo jamaicensis*), great horned owl (*Bubo virginianus*), Cooper's hawk (*Accipiter cooperii*), and barn owl (*Tyto alba*). In addition, the non-native grassland areas being impacted as well as other native habitats like Diegan coastal sage scrub may support foraging for several resident, migratory, and wintering raptor species. Significant impacts to raptors would occur if active nests are removed or if significant amounts of construction noise and dust occur within 500 feet of active nests. Impacts also would occur to raptor foraging with the direct loss of approximately 12.8 acres of foraging habitat, including 1.7 acres of disturbed Diegan coastal sage scrub and 11.1 acres of non-native grassland (10.5 acres of non-native grassland would be impacted by development, and 0.6 acre by oak woodland creation; see Section 6.1.1). Vegetation density within intact Diegan coastal sage scrub, coyote brush scrub, and coastal sage-chaparral scrub is likely too high to support raptor foraging.

The proposed loss of habitat also has potential to impact migratory birds that may be nesting within the impact footprint. The MBTA makes it unlawful to directly take any migratory bird or part, nest, or egg of such bird listed in wildlife protection treaties between the U.S. and other countries. Most nongame bird species are protected under the MBTA. Under the MBTA, impacts from clearing of habitat that supports nesting migratory birds would be considered significant.

5.6 JURISDICTIONAL IMPACTS

5.6.1 Impacts to Corps Jurisdictional Areas

On, site, the main access road in the north-central portion of the site would impact 170 linear feet (320 square feet) of drainage that is considered an ephemeral Corps jurisdictional non-wetland Waters of the U.S. and a CDFG jurisdictional streambed (Figure 6). In addition to the stream crossing, the main access road includes one proposed box culvert, which would not cause further direct impacts to any jurisdictional features. The culvert would be positioned where the access road crosses a shallow swale between a small ephemeral drainage to the south and the main on-site drainage to the north. This area is characterized by upland (Diegan coastal sage scrub)

vegetation and has no physical evidence of surface flow (drift lines, sediment deposits, etc.). Because the required wetland criteria are not met, this area is not considered Corps, CDFG or RPO jurisdictional.

The wetland functions and values impacted by the proposed project would be a lack of groundwater recharge and floodwater conveyance along the length of the pipe installed to convey flows under the proposed main access road. As water would exit the pipe downstream of the crossing, groundwater recharge would be restored immediately. No net reduction in the functions and values of the drainage, including a reduction in groundwater recharge, would, therefore, occur. At present, the drainage dissipates downstream of the crossing for the main access road, indicating a reduction in surface flow owing to percolation of the water into the substrate. Therefore, the project would not be expected to cause a net loss of wetland function. The project likely will require a Clean Water Act Section 404 Nationwide Permit through the Corps to authorize this impact.

Off-site improvements to Cleveland Trail and associated utility installation would avoid impacts to Corps jurisdictional features. The existing roadway crossing of Buena Creek would not be altered and the creek would not be affected because the water and sewer lines in this location would be installed within the roadbed, above the existing culvert.

5.6.2 Impacts to CDFG Jurisdictional Areas

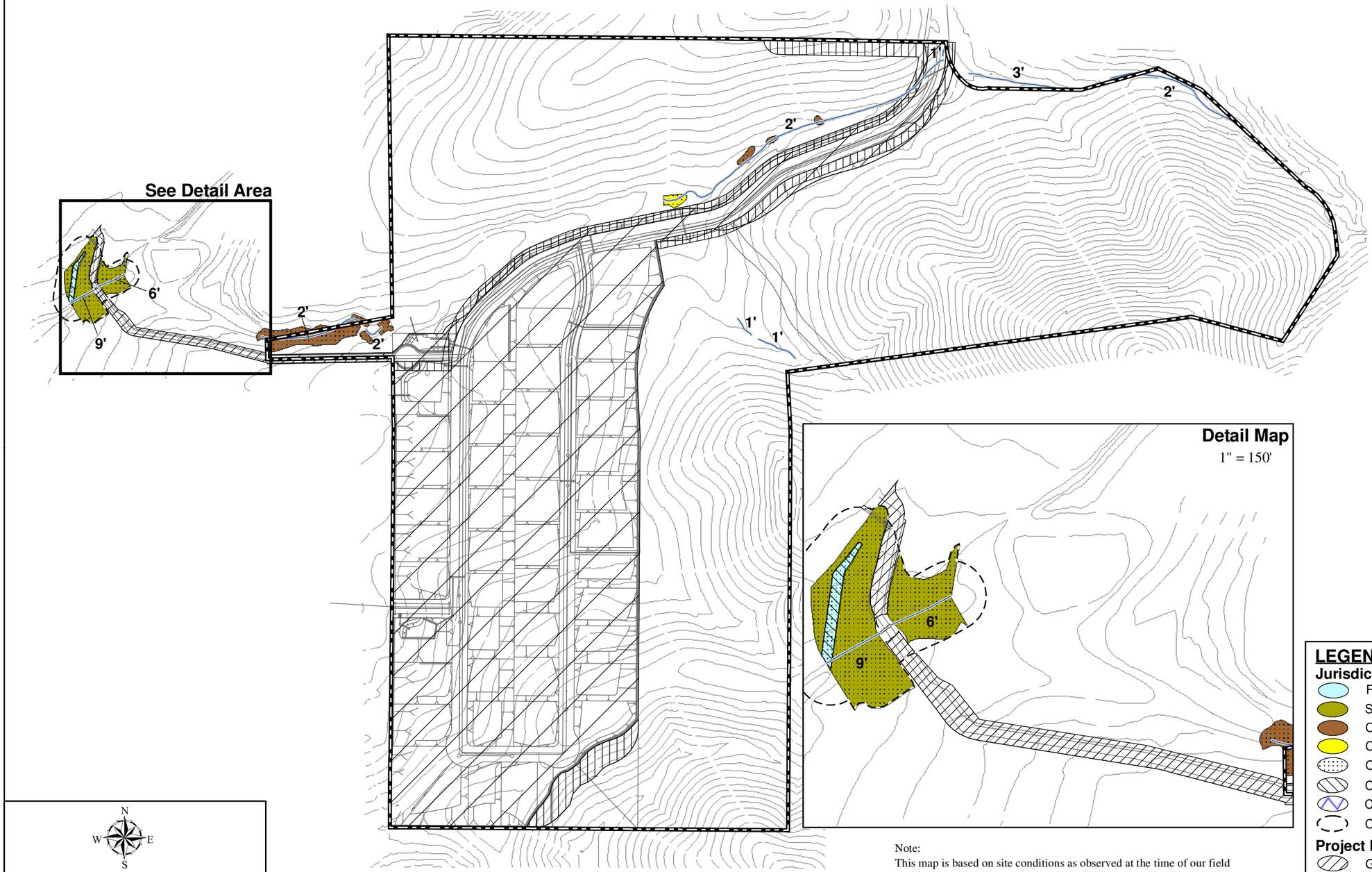
The main access would impact 170 linear feet (320 square feet) of CDFG streambed in the northern portion of the site (Figure 6). A CDFG Section 1602 Streambed Alteration Agreement likely would be required to authorize these impacts

No CDFG jurisdictional areas would be impacted off site as improvements to Clkeveland Trail and associated utilitiy lines have been designed to avoid impacts. Specifically, the required sewer line would extend beneath a CDFG wetland immediately south of the intersection of Cleveland Trail and Buena Creek Road. This section would be installed using the jack-and-bore technique and would avoid aboveground impacts to the CDFG jurisdictional habitat.

5.6.3 Impacts to County RPO Wetlands

No impacts to County RPO wetlands would occur as a result of the project. As described in Section 3.2.3, no RPO wetlands occur on site. The existing Cleveland Trail crossing of Buena Creek would remain unchanged and the water and sewer pipelines would be installed within the roadbed, above the existing culvert.

The proposed off-site improvements to Cleveland Trail have been designed to avoid impacts to RPO wetland buffers for Buena Creek and the associated patch of freshwater marsh. Cleveland Trail is an existing road that provides access to existing residences. Installation of the proposed eight-inch sewer line approximately 30 feet from the freshwater marsh would not impact RPO wetland buffers because the segment that diverges from Cleveland Trail would be installed by jacking and boring, which would not disturb the vegetation or affect the ground surface. Runoff



Jurisdictional Delineation/Impacts

BIOLOGICAL TECHNICAL REPORT FOR THE SUGARBUSH RESIDENTIAL PROJECT

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Figure 6

would continue to enter the frewshater marsh without impediment or increased siltation. All other improvements in this area would occur within the existing disturbance footprint of Cleveland Trail, and thus would not constitute a new use adjacent to existing RPO wetland habitat. BMPs would be employed during construction to minimize potential indirect impacts to Buena Creek, the freshwater marsh,m and associated wetland buffers.

5.7 WILDLIFE CORRIDORS

During construction activities, some wildlife movement would be disrupted at the location of the construction. Once complete, however, the project would consist of residential units, roads, and other residential related structures and appurtenances that would create a barrier to local wildlife movement in the southwestern corner of the site.

Land to the east and south of the project site is undeveloped and adds to a larger, regional habitat area for plant and animal species. Wildlife can use most habitats on site and can access habitats off site without restriction at this time. The project is designed to maintain connectivity of preserved habitats on site with regional connections to large off-site vacant lands to east and south. With the preservation of the majority of the habitat on site and clustering of homes in the southwest corner of the site significant effects to regional wildlife corridors in the project vicinity are not anticipated.

The placement of the main project access road across the northern portion of the site would provide some impedance to local wildlife movement between the site and Buena Creek. While the roadway likely would cause some restriction to animal movement, it would not result in a complete blockage. Birds would be able to fly over the roadway at will. Other animals would be able to cross the road, although this likely would result in some level of road kill (discussed more specifically in Section 5.9.8). Additionally, small animals, such as raccoons, ground squirrels, rabbits, and woodrats may use the culverts under the main access road to cross the site. In summary, while there would be some effect upon localized wildlife movement, the resultant impact is considered to be less than significant.

5.8 CUMULATIVE IMPACTS

A number of additional development projects are proposed in the vicinity of the Sugarbush property, including San Marcos Highlands, Santa Fe Hills, and the Murai project, which are located approximately 0.5 mile to the south the potential Norcross project to the east, and the Fredas Hill project to the northeast.

Impacts assessed to the proposed Sugarbush project would result in a loss of 40.7 acres of habitat, including 0.6 acre of coast live oak woodland, 23.3 acres of Diegan coastal sage scrub, and 11.1 acres of non-native grassland (including 10.5 acres of impacts from project grading and brush management and 0.6 acre from habitat creation). The project would avoid impacts to 76.9 acres of habitat with 76.4 acres placed into open space (75.7 acres of biological open space suitable for mitigation and 0.7 acre of avoidance open space in the western panhandle), and 0.5 acre within existing road easements. A 0.7-acre steep slope open space would be subject to

brush management and is considered impacted. Additionally project implementation could cause impacts to 0.4 acre within the root zones of existing coast live oaks. The project has potential to impact the federally listed threatened coastal California gnatcatcher. Considered alone, the amount of habitat and number of impacted sensitive species do not represent a significant impact because they would be mitigated to the extent required by federal and state laws and County ordinances. When coupled with impacts potentially caused by the other nearby projects that must also comply with federal, state, and NCCP requirements, the proposed project would not contribute to significant cumulative impacts to sensitive resources. The project will cluster all impacts into one small area, allowing the biological open space to be contiguous with the large habitat area off site to the north and south. Likewise, the continuity of the open space configuration for the project should preclude disruption of any existing archipelago habitat system.

5.9 INDIRECT IMPACTS

Potential indirect impacts from project construction could include impacts to oak root zones, as well as noise, decreased water quality (through sedimentation, urban contaminants, or fuel release, for example), fugitive dust, colonization of non-native plant species, edge effects, human activity, animal behavioral changes, roadkill, attraction of nuisance animal species, and night lighting.

5.9.1 Construction Noise

Construction noise from such sources as grading, grubbing, and vehicular traffic would be a temporary impact to local wildlife. Noise-related impacts would be considered significant if sensitive species (such as gnatcatchers) or raptors were displaced from their nests and failed to breed. Birds and other species may be temporarily displaced from the vicinity of the construction area but would be expected to return following grading. Gnatcatchers or raptors nesting within any area impacted by construction noise exceeding 60 dB(A) L_{eq} may be significantly impacted.

5.9.2 Water Quality

Water quality in wetlands/Waters of the U.S. can be adversely affected by potential surface runoff and sedimentation during construction. The use of petroleum products (fuels, oils, lubricants) and erosion of cleared land during construction could potentially contaminate surface water. Decreased water quality may adversely affect vegetation, aquatic animals, and terrestrial wildlife that depend upon these resources. These potential impacts would be minimized through project design measures and compliance with applicable County stormwater permitting requirements. As mitigated, these impacts would be reduced to less than significant levels.

5.9.3 Fugitive Dust

Fugitive dust produced by construction has the potential to disperse onto preserved vegetation, which may reduce the overall vigor of individual plants by reducing their photosynthetic capabilities and increasing their susceptibility to pests or disease. This in turn could affect animals dependent on these plants (e.g., seed-eating rodents). Fugitive dust also may make

plants unsuitable as habitat for insects and birds. Active construction areas and unpaved surfaces would be watered pursuant to County grading permit requirements to minimize dust generation. Because native habitats and sensitive plant and animal species are not anticipated to be substantially impacted, indirect impacts due to dust would be less than significant.

5.9.4 Non-native Plant Species

Non-native plants could colonize areas disturbed by construction and potentially could spread into adjacent native habitats, especially following a disturbance such as fire. Many non-native plants are highly invasive and can displace native vegetation (reducing native species diversity), potentially increase flammability and fire frequency, change ground and surface water levels, and adversely affect native wildlife dependent on the native plant species. The potential for increase of non-native plant species in the area would be limited because invasive species would be prohibited from use in landscaping, and fire walls would be installed along the urban/wildland interface. Further colonization by non-native plant species in non-impact areas and potential degradation of open space for use by native species would be considered a significant impact on site unless mitigation measures are implemented.

5.9.5 Edge Effects

Edge effects occur when development or grading traverses an undeveloped area with substantial native lands surrounding the impact area. The edges of such disturbed areas act as a gateway for non-native plant species invasion and for predators (native and non-native) to access prey that may otherwise have been protected within large, contiguous blocks of habitat. In addition, secondary extinctions through disruption of predator-prey, parasite-host, and plant-pollinator relations can occur (Soulé 1986). The clustered nature of development on the proposed project site and siting of the development adjacent to off-site development minimizes the edge effects to the maximum extent feasible.

5.9.6 Human Activity

Increases in human activity in the area could result in degradation of sensitive vegetation by further fragmenting habitat and forming edges through the creation of roads and trails and removing existing vegetation. In addition, illegal dumping of lawn and garden clippings, trash, and other refuse could occur. The extent of potential incursion would be limited because no trails are proposed in open space and fire walls would be installed along the urban/wildland interface. These impacts would be considered significant if adjacent preserved sensitive areas are likely to be degraded and unless measures to control these activities are applied.

5.9.7 Animal Behavioral Changes

Breeding birds and mammals may temporarily or permanently leave their territories to avoid construction activity, which could lead to reduced reproductive success and increased mortality. In addition, the presence of the federally listed threatened coastal California gnatcatcher habitat may require monitoring to determine presence or absence prior to or during construction, because noise from construction work could affect this species during its breeding season (February 15

through August 30). Raptors were also observed on site and are susceptible to disturbance from construction during nesting. Without mitigation measures these impacts could be significant.

5.9.8 Roadkill

Roadkill could occur as vehicles travel on both external roads leading to the project site and internal roads associated with the proposed project. The proposed project would produce over 500 average daily trips. Roadkill impact could be potentially significant if it affects federally or state listed species. Impacts are considered less than significant due to the limited number of vehicle trips that the project is likely to generate, and the fact that the only federally or state listed species known to occur on site is the coastal California gnatcatcher, which is not known to be susceptible to roadkill.

5.9.9 Nuisance Animal Species

The project has the potential for domesticated animals to impact native wildlife. Cats, especially, are known to hunt rodents and birds. Domestic animals potentially could significantly impact native wildlife in the immediate area. Animals inhabiting the open space areas may be particularly susceptible. A 6-foot-high fire wall would be constructed between the proposed houses and open space, which would minimize the incursion of domestic animals (particularly dogs) into the open space. In addition, the presence of coyotes on site will help control domestic animals that may enter the native habitat.

5.9.10 Night Lighting

Night lighting on native habitats can prevent nocturnal wildlife from using an area. Although no lighting is expected to occur within the construction zone because work would be during the day, there is a potential for night lighting to occur in the staging areas (anticipated to be limited to repairs of equipment damaged during the work day), as well as in the new residential area following construction. Night lighting could cause an increased loss in native wildlife that could be potentially significant unless mitigated. Night lighting on native habitats can provide nocturnal predators with an unnatural advantage over their prey. This could cause an increased loss in native wildlife that could be potentially significant.

5.9.11 Raptor Foraging Habitat

The proposed project has potential to indirectly impact raptors by loss of foraging habitat, including 12.8 acres of foraging habitat, including 1.7 acre of disturbed Diegan coastal sage scrub and 11.1 acres of non-native grassland (10.5 acres of non-native grassland would be impacted by development, and 0.6 acre by oak woodland creation; see Section 6.1.1). Vegetation density within intact Diegan coastal sage scrub, coyote brush scrub, and coastal sage-chaparral scrub is likely too high to support raptor foraging.

6.0 PROPOSED MITIGATION MEASURES

The project would significantly impact sensitive vegetation communities/habitats and species through direct loss and could cause significant indirect impacts as well. Mitigation ratios used below have been developed in part based on NCCP Guidelines (CDFG 1997), current County guidelines, and past precedence. Open space easements would be placed on all biologically meaningful areas outside the grading and fire clearing areas to protect the resources *in perpetuity*. The mitigation measures will be finalized through consultation with the resource agencies and the County as part of the required permitting and regulatory processes.

6.1 VEGETATION COMMUNITIES/HABITATS

The proposed project would provide 77.1 acres of open space, of which 75.7 acres would be biological open space suitable to mitigate project impacts, 0.7 would be avoidance open space to be placed over the western panhandle, and 0.7 acre would be steep slope open space subject to brush management (and therefore considered impacted; Table 4, Figures 5a and 5b, and Appendix G). The biological open space would be separated from the residential lots area by a 6-foot masonry fire wall, which would reduce human and pet access. The steep slope open space would be subject to fire clearing, but would retain habitat value for native wildlife. To delineate the edge of fire clearing, while ensuring wildlife access to both open space areas, three-strand wire fencing would be installed along the boundary between the steep slope open space and the biological open space. The avoidance open space is designed to avoid impacts to a jurisdictional feature and associated coast live oak woodland; however, it is narrow, is located adjacent to the existing Cleveland Trail, and has reduced connectivity with the remainder of the on-site open space, so it is not included as project mitigation. The biological open space would support 1.3 acres of coast live oak woodland (0.4 acre of existing oak woodland, 0.6 acre to be created within existing non-native grassland, and 0.3 acre to be created within existing disturbed habitat), 67.6 acres of Diegan coastal sage scrub, 2.8 acres of coastal sage-chaparral scrub, 0.3 acre of coyote brush scrub, and 2.4 acres of non-native grassland.

Temporary construction staking or fencing shall be erected under the supervision of a qualified biologist at or outside the edge of the impact areas where they interface with natural areas. This fencing shall be erected prior to commencement of brushing or grading activities and will demarcate areas where human and equipment access and disturbance from grading are prohibited. All clearing, grubbing, and grading activities near these interfaces, as well as trenching within Cleveland Trail and excavation of the jacking pits for installation of the sewer line between Cleveland Trial and Buena Creek Road shall be monitored by a qualified biologist. Construction staging shall be restricted to approved impact areas only.

Table 4
MITIGATION FOR IMPACTS TO VEGETATION COMMUNITIES*

VEGETATION COMMUNITY	EXISTING ON SITE	TOTAL IMPACTS	EXISTING EASEMENTS	MITIGATION		BIOLOGICAL OPEN SPACE	AVOIDANCE OPEN SPACE†
				Ratio	Acreage		
Wetlands							
Southern coast live oak riparian forest (81310)	0.00	0.00**	0.00	NMR	0.00	0.00	0.00
High Sensitivity							
Coast live oak woodland (71160)	1.0	0.6	0.0	2.2:1	1.3	1.3‡	0.5
Moderate Sensitivity							
Diegan coastal sage scrub (including disturbed; 32500)	91.3	23.3	0.5	2:1	46.6	67.6	0.0
Coastal sage-chaparral scrub (37G00)	2.8	0.0	0.0	--	--	2.8	0.0
Coyote brush scrub (32000)	0.3	0.0	0.0	--	--	0.3	0.0
Sage Scrub Subtotal	**94.4**	**23.3**	**0.5**	**2:1**	**46.6**	**70.7**	0.0
Low Sensitivity							
Non-native grassland (42200)	13.5	11.1‡	0.0	0.5:1	5.6	2.4‡§	0.0
Other							
Eucalyptus woodland (11100)	0.2	0.1	0.0	NMR	--	0.1	0.0
Non-native vegetation (11000)	2.0	1.7	0.0	NMR	--	0.3	0.0
Disturbed habitat (11300)	4.1	3.0‡	0.0	NMR	--	0.8‡	0.2
Orchard (18100)	0.1	0.0	0.0	NMR	--	0.1	0.0
Developed land (12000)	0.2	0.8	0.0	NMR	--	0.0	0.0
TOTAL	**115.5**	**40.7**	**0.5**	**--**	**53.4**	**75.7**	**0.7**

*All areas are presented in acre(s); wetlands are rounded to the nearest 0.01 acre; uplands are rounded to the nearest 0.1 acre; therefore, totals reflect rounding

**Installation of water and sewer pipelines would occur by jacking and boring to avoid impacts to southern coast live oak riparian forest.

†Habitat within the avoidance open space would be preserved on site within the western panhandle along Cleveland Trail, but would not be applied toward mitigation.

‡Mitigation for oak impacts would include 0.4 acre of oak woodland preservation and 0.9 acre of oak woodland creation, which would impact 0.6 acre of non-native grassland and 0.3 acre of disturbed habitat.

§The remainder of non-native grassland mitigation would be met with preservation of excess sage scrub habitat.

NMR = No mitigation required by wildlife agencies or County for impacts to these habitats.

6.1.1 Mitigation for Impacts to Upland Habitats

The proposed direct and indirect impacts to 0.6 acre of coast live oak woodland would be mitigated on site with a combination of habitat preservation and creation. Approximately 0.4 acre of coast live oak woodland located within the proposed on-site biological open space would apply as mitigation. Approximately 0.9 acre of coast live oak woodland creation would occur on existing non-native grassland, eucalyptus woodland, and disturbed habitat within the biological open space (Figures 5a and 5b; Appendix G). The coast live oak woodland creation would occur along the main on-site drainage, which runs just north of the proposed access road and along the property boundary in the northwest of the site. As both of these areas already support coast live oaks, the creation would expand existing woodland habitat and fill in the gaps between patches. It is anticipated that approximately 60 to 90 coast live oak trees would be planted within existing non-native grassland and disturbed habitat to create 0.9 acre of mature woodland.

Typically, impacts to coast live oak woodland are mitigated at a 3:1 ratio, which would correspond to 1.8 acres; however, in consultation with the County, a reduced mitigation ratio was approved because creation and preservation of on-site habitat is considered preferable to off-site preservation. Whereas off-site preservation would affect a net loss of coast live oak woodland, creation would add new habitat in the on-site managed preserve. The proposed 1.3 acres of coast live oak woodland preservation and creation would result in a mitigation ratio of approximately 2.2:1, which would fully mitigate the impacts to 0.6 acre of habitat.

In addition to preservation and creation within the biological open space, approximately 0.5 acre of coast live oak woodland would be preserved within an avoidance open space in the panhandle along Cleveland Trail in the western portion of the site, but would not apply toward project mitigation. Altogether, the project would preserve 1.8 acres of coast live oak woodland, including 0.5 acre of existing oak woodland within the avoidance open space, 0.4 acre of existing oak woodland in the biological open space, and 0.9 acre of created oak woodland in the biological open space.

Impacts to 23.3 acres of Diegan coastal sage scrub will be mitigated with on-site preservation at a 2:1 ratio (46.6 acres). Approximately 70.7 acres of coastal sage scrub habitats occur within the proposed biological open space easement, including 67.6 acres of Diegan coastal sage scrub (13.1 acres of disturbed), 2.8 acres of coastal sage-chaparral scrub, and 0.3 acre of coyote brush scrub, providing a surplus of 24.1 acres.

Impacts to 11.1 acres of non-native grassland (including 10.5 acres due to the residential development and 0.6 due to oak woodland creation) would require mitigation at a 0.5:1 ratio, or 5.6 acres. This requirement will be partially mitigated through on-site preservation of 2.4 acres of non-native grassland within biological open space easement. Because the project would preserve 24.1 acres of coastal sage scrub habitats over that required for mitigation, preservation of a portion of the grass-dominated disturbed coastal sage scrub would be used to mitigate the additional required 3.2 acres of non-native grassland. All mitigation shall be acceptable to the wildlife agencies and County in order to meet mitigation objectives.

6.1.2 Mitigation for Impacts to Wetland Habitats

Implementation of the proposed project would result in direct impacts to 170 linear feet (320 square feet) of drainage on site that are jurisdictional to the Corps and CDFG. The on-site drainage would be impacted by installation of a pipe to transfer flow under the main access road in the north-central portion of the site. The main access road has been designed to minimize impacts to jurisdictional features. As discussed in Section 5.6, these impacts would not significantly affect the flood conveyance, groundwater recharge, or biological functions of the existing wetlands. To offset any impacts that associated with the drainage crossing, the project applicant proposes enhance the drainage by removing exotic plant species, including castor bean and fennel (*Foeniculum vulgare*), from the length of the drainage. This enhancement is designed to satisfy the Corps and CDFG mitigation requirements and will be specified in the habitat management plan that will be required of the project.

A conceptual habitat management plan has been provided with this report (Appendix H). This action will improve the biological function of the creek and fully mitigate the small impact to the creek bed.

6.2 PLANT SPECIES

Impacts to ashy spike-moss are not significant due to the small number of individuals impacted, the relative commonness of the species. No mitigation measures are, therefore, required.

6.3 ANIMAL SPECIES

Impacts to the coastal California gnatcatcher shall be mitigated through on-site Diegan coastal sage scrub preservation and by avoidance of impacts to any nesting pair. Diegan coastal sage scrub supporting nesting gnatcatchers shall not be removed during the breeding season (February 15 through August 30 or until all nesting is complete). Prior to construction, demonstration of absence of gnatcatchers shall require surveys pursuant to USFWS protocol, with clearing of unoccupied habitat requiring the concurrence of the wildlife agencies. In addition, construction activities shall not take place within proximity to an active gnatcatcher nest such that noise levels at the nest exceed 60 dB(A) L_{eq}. Noise levels will be periodically monitored by the monitoring biologist and/or a noise specialist. These conditions will be subject to review and approval by the USFWS as part of the Section 4(d), Section 7, or Section 10(a) consultation process.

A qualified biologist shall determine if any active raptor nests occur within 500 feet of construction prior to its commencement. Construction shall not occur within 500 feet of an active nest. If a nest occurs in a tree to be impacted, the tree shall not be removed while the nest is active (potentially, January through July).

Compliance with the MBTA requires vegetation clearing to occur outside of the breeding season (February 15 through August 31). If clearing must occur during the breeding season, a pre-construction survey must be conducted to determine the presence or absence of nesting birds

within the project footprint. If no nests are found, clearing may commence. If nests are found, clearing will be postponed until after the breeding season.

6.4 WILDLIFE CORRIDORS

Significant impacts to wildlife corridors were not identified; therefore, no mitigation measures for wildlife corridor impacts are required.

6.5 INDIRECT IMPACTS

To reduce impacts from edge effects and human activity, the preserved open space areas shall be fenced off from the backyards of the proposed homes, and delineated with split rail fences along roadways adjacent to the open space preserve. Signage identifying the sensitivity of the habitat as well as restricted activities shall be erected along the open space boundary (Appendix G). Exterior lighting within the development project adjacent to preserved habitat shall be of the lowest illumination allowed for human safety, selectively placed, shielded, and directed away from preserved habitat to the maximum extent practicable.

7.0 CERTIFICATION/QUALIFICATION

The following individuals contributed to the field surveys and/or preparation of this report:

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